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# STATION LISTS OF MARINE BIOLOGICAL EXPEDITIONS OF THE NATIONAL MUSEUM OF NATURAL SCIENCES IN THE NORTH AMERICAN PACIFIC COASTAL REGION, 1966 TO 1980

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ABSTRACT

Station data and locality maps are provided for marine biological expeditions of the National Museum of Natural Sciences in the following regions of the Pacific coast of North America: Washington and Oregon, 1966; Vancouver Island, B.C., 1970, 1975, 1976, 1977, 1978; British Columbia Mainland, 1975, 1976, 1977; and southeastern Alaska (Sitka region), 1980. These station lists combined with previous regional stations lists (1955-1964), provide basic locality and ecological data for current monographic studies of selected crustacean groups and other invertebrate taxa for which the expeditions were designed.

RESUME

L'auteur fournit ici une description des stations de collecte des expéditions de biologie marine du Musée national des sciences naturelles sur la côte du Pacifique d'Amérique du Nord et les localise sur des cartes géographiques comme suit: Washington et Oregon, 1966; île de Vancouver, C.-B., 1970, 1975, 1976, 1977, 1978; Colombie-Britannique continentale, 1975, 1976, 1977; sud-est de l'Alaska, région de Sitka, 1980. Ces listes de stations de collecte, en plus des listes régionales précédentes (1955-1964), constituent une source de données de base sur l'écologie de ces lieux dans le cadre d'études monographiques actuellement en cours sur des groupes précis de crustacés et autres invertébrés.

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## INTRODUCTION

Since 1955, the National Museum of Natural Sciences has conducted marine biological investigations on the Pacific coast of Canada and adjacent shores of the United States to obtain study material and basic distributional-ecological information on crustaceans, mollusks, and other invertebrate taxa from this little studied region. Previously published are the station data for museum expeditions to Vancouver Island and southern coastal mainland British Columbia (Bousfield, 1958a), Queen Charlotte Islands and northern Vancouver Island (Bousfield, 1963), the central mainland coast of British Columbia (Bousfield, 1968) and southeastern Alaska and Prince William Sound (Bousfield and McAllister, 1962). Herewith are presented station data for expeditions to the coastal marine regions of Washington and Oregon, 1966; Vancouver Island, 1970, 1975, 1976, 1977, and 1978; the southern British Columbia mainland, 1975, 1976, 1977; and the Sitka region of southeastern Alaska, 1980.

Publication of station lists is designed to avoid duplication of raw data and map figures where multidisciplinary publications are anticipated (e.g., Bousfield and Laubitz, 1972). Collections of the National Museum of Natural Sciences from the North American Pacific coastal region (since 1955) have already provided bases for publications on regional semi-terrestrial and freshwater amphipods (Bousfield, 1958b, 1958c) and the marine amphipod families Atylidae and Oedicerotidae (Mills, 1961, 1962), Podoceridae (Laubitz, 1977), and Caprellidae (Laubitz, 1970). Present station collections, combined with earlier material, are incorporated in regional monographic studies of amphipod superfamilies and families that include the Gammaroidea (Bousfield, 1979a), Ampeliscidae (Dickinson, 1981, in press), Ampithoidae and Aoridae (Conlan and Bousfield, 1981a, b, in press), Lysianassidae (Jarrett and Bousfield, 1981, in press) and selected families of Talitroidea (Bousfield 1979b, 1981a, b, c, in press, Bousfield and Tzvetkova, 1981 in press). Non-amphipod material has been included in regional studies of isopod crustaceans (Rafi, 1972), mysid shrimps (Holmquist, 1973, 1978, 1980), decapod crustaceans (Hart, 1968, 1971, 1980, and Butler, 1980), mollusks (Clarke, 1972), and fishes (Gruchy, 1970, McAllister, 1968, Peden, 1978, and Peden and Wilson, 1976). Extensive material of other gammaridean superfamily groups, cumaceans, tanaids, isopods, nebaliaceans, and representative material of other invertebrate groups including sponges, coelenterates, polychaetes, and chordates (e.g., Ascidiacea) await study by interested systematists.

### Methodology

As in past expeditions, the majority of collecting stations were intertidal and shore based, and within hip-boot reach at low tide.

Fig. 1. Student class, Bamfield Marine Station, on flat sand beach at Pachena Bay, Vancouver Island, B.C.

Fig. 2. Student and crew of R/V LEIK, Bamfield Marine Station, operating dredge.

Specimens were obtained by means of hand nets, shovel and sediment screens, handpicking, and washing of algal fronds, hold-fasts, and eelgrass roots. Previously, collections were formalin-preserved in the field. Since 1975, however, specimens (and part of their substrata) have been stored in cold sea water in plastic vials, jars, and brought back alive to the laboratory. There they have been screened and sorted, and the animals observed for basic behaviour patterns and photographed in living colour. Limited sampling of subtidal, infaunal and sediment-burrowing communities was attempted at regional shipboard stations (Figs. 1-6 ). On larger vessels such as the R/V VECTOR, ACTIVE LASS, and LEIK (Bamfield Marine Station), various types of dredges and bottom trawls, and grab samples (Ponar, Ekman) were employed with varying success. A simple light Naturalist's dredge manufactured by Turtox Co. (Rochester, N.Y.) with protected coarse-mesh nylon bag, proved most effective for collecting small infaunal crustaceans on sand or silty sand, in depths up to 30 metres, when towed either from a light outboard-powered craft, or from the larger vessels. Collected samples were quickly washed down on special sorting tables, or elutriated in large overflow tubs, from which the animals were screened, concentrated, and maintained in cold seawater containers. Plankton samples were obtained from surface waters using standard metre hoops and coarse nylon mesh nets.

In order to produce realistic colour on film, animals must be photographed alive since natural colours fade extremely rapidly after death. Major problems encountered in handling small to medium-sized animals (2-20 mm in body length) were (1) "freezing" the animal in a natural position, despite body movements and extraneous vibrations, (2) illuminating the subject sufficiently, yet allowing appreciable stoppering down of the lens diaphragm to give reasonable depth of field at high magnifications, and (3) keeping the animal, water, and dish free of mucus, dirt, and other extraneous material. In solving these problems, various forms of high speed synchro-flash photo equipment were used, including the Nikkormat FT-2 and medical lens, and the Wild M-5 stereo binocular microscope and photo attachments, especially for high magnifications. Until the methodology is published, details may be obtained through direct contact with the senior author and/or Mr. Ron Long, Department of Biology, Simon Fraser University.

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Fig. 3. South end of Long Beach, Wickaninnish Bay, Vancouver Island, B.C.

Fig. 4. Skipper Sig Tveit emptying trawl aboard R/V LEIK, Bamfield Marine Station.

Bourne; the Pacific Environmental Institute, West Vancouver, B.C., and staff members Drs. Michael Waldichuk, Colin Levings, Messrs. Neil McDaniel, Len Bell, and Graham Christie, Ms. Penny O'Rourke, Captain Sandy Matheson and crew of the R/V ACTIVE LASS and Captain Marsden and crew of the R/V VECTOR; the National Parks Service, Pacific Rim National Park, B.C.; the British Columbia Provincial Museum, Victoria, B.C., including Dr. Alex Peden, Phillip Lambert, and the late Dr. G. Clifford Carl and his wife Babs (Dr. J. F. L. Hart); the University of Victoria, especially Dr. Derek V. Ellis; the Bamfield Marine Station including Director, Dr. John McInerney, Drs. Louis Druehl, Ian Lawn, and Andrew Spencer, Myriam and Cliff Haylock, students Lynn Daniel, Darlene Switzer, Wendy Craik, and Bruce Leaman, and skipper Sig Tveit and crew of the R/V LEIK; and the Friday Harbor Marine Laboratory (University of Washington), especially Dr. Paul Illg, Dr. Charles O'Clair, and Mr. Craig Staude. Individuals who gave unstintingly of their time and interest to various phases of the field surveys include fellow museum staff members Fahmida Rafi, Peter Frank, and Dr. Rita O'Clair, post-doctoral fellow John Dickinson and research associate Kathleen Conlan; Mr. Ron Long, Simon Fraser University, and Ms. Marilyn Allan of Toronto, Mrs. Cynthia Mutch, University of Alberta, David and Floy Zittin, Vancouver, Dr. Wm. Austin, Pender Harbour, B.C., Mr. John Eilertson, Coal Harbour, B.C., Dr. Clem Pelletier, Utah Mines, Port Hardy, B.C., Dr. John Morton, Auckland, New Zealand, Mr. and Mrs. Richard Billings, Southeast Alaska Cruises, Inc., Sitka, Barbara and Marjorie Bousfield and others too numerous to mention here. To all these agencies and persons, the authors extend their sincere thanks.

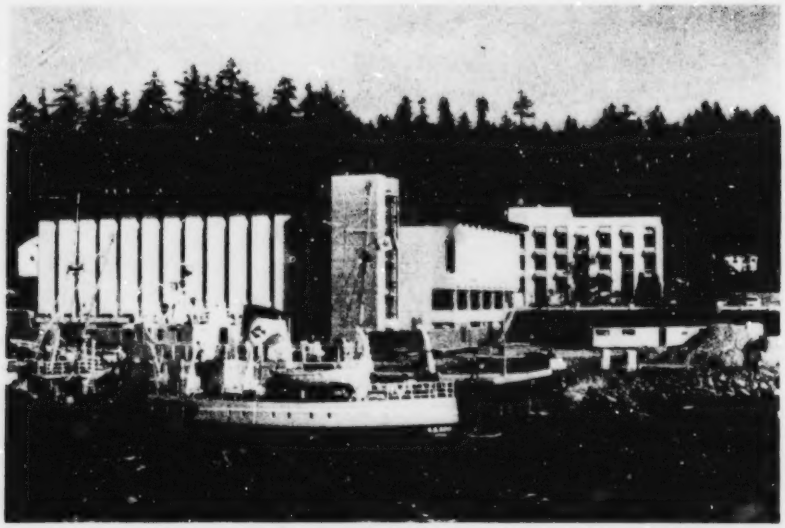

Fig. 5. Pacific Biological Station, Nanaimo, B.C., with R/V G.B. REED at dock.

Fig. 6. Technician Penny O'Rourke, Pacific Environmental Institute, operating Naturalist's dredge aboard R/V ACTIVE LASS.

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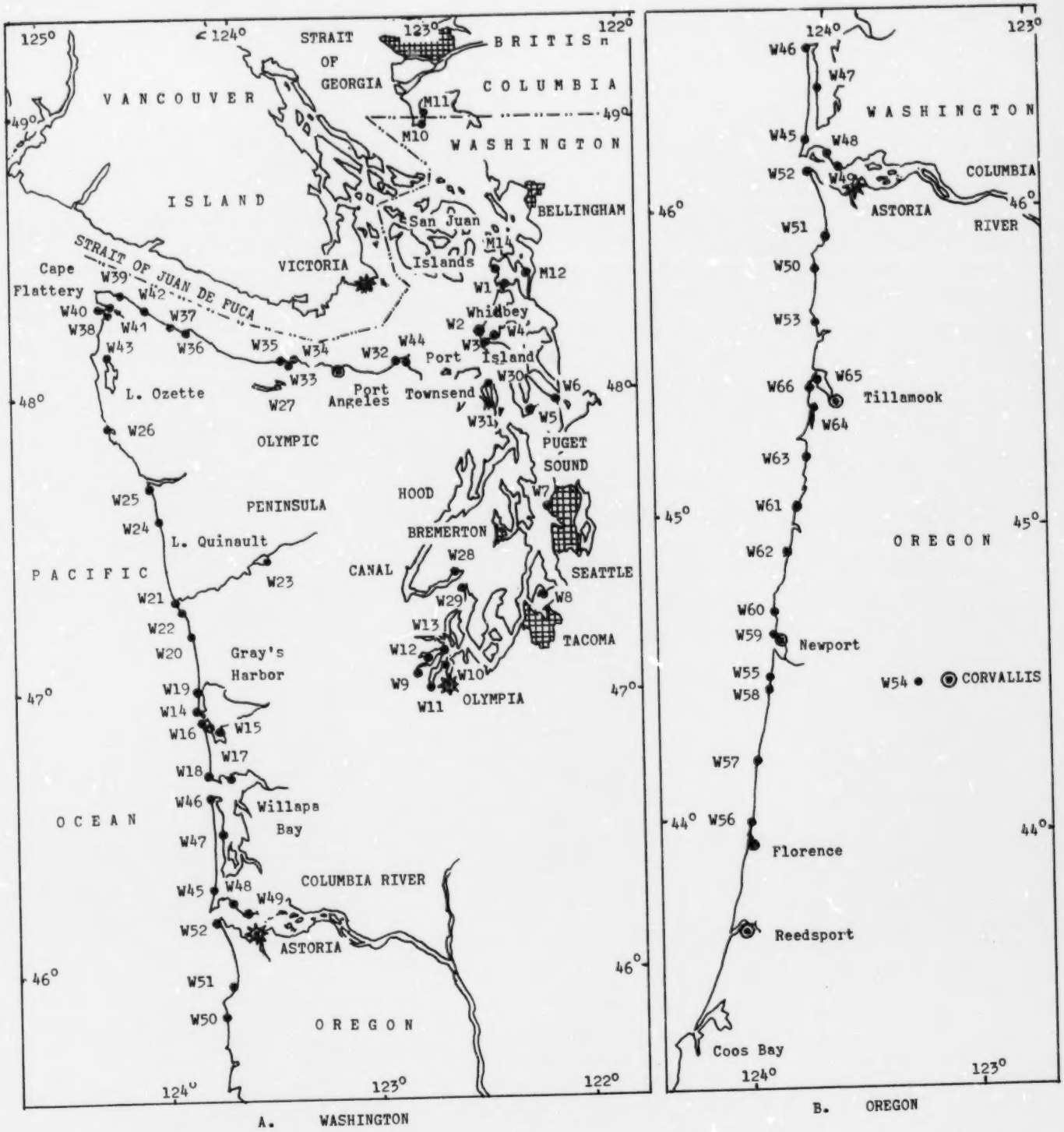


Fig. 7. Collecting localities in Washington and Oregon, 1966.

TABLE I. COLLECTING STATION IN WASHINGTON AND OREGON, 1966
(Collectors: E.L. Bousfield, Barbara Bousfield, Marjorie Bousfield)

| STATION NO. | DATE | LOCALITY | LATITUDE LONGITUDE | TIDE | TEMP. °C | SAL'Y °/oo | DEPTH & SAMPLING METHOD | HABITAT |
|---|---|---|---|---|---|---|---|---|
| | July | Washington | | | | | | |
| W1 | 11 | Pass Lake Fidalgo I., Island Co., | 48°25'N 122°38½'W | | 18.8 | FW | Dipnet | Gravelly sand, leaves and woody detritus at lake edge |
| W2 | 12 | West Beach, Whidbey I., Island Co. | 48°18'N | LW | 12.4 | 30.4 | Dipnet, hand picking | Fine to medium black sand; boulders, fucoids; LW-MW level |
| W3 | 12 | Juan de Fuca Cove, head of Penn Cove, Whidbey I. | 48°14'N 122°44'W | LW | 12.6 | | Dipnet, hand picking | Black sand and gravel, clusters of Mytilus; LW-MW levels |
| W4 | 12 | Penn Cove, north shore opposite Coupeville, Whidbey I. | 48°14½'N 122°41'W | LW | 12.5 | 22.6 | Dipnet | Medium coarse black sand; eel grass; LW-1/3 R |
| W5 | 13 | Useless Bay at Double Bluff, Whidbey I. | 47°58½'N 122°31'W | LW | 14.8 | 27.1 | Shovel, screen, hand picking | Fine to medium gray sand flats; stones, boulders, Ulvaceae; LW |
| W6 | 13 | Sandy point, Saratoga Pass, Whidbey I. | 48°02'N 122°22½'W | LW | 14.0 | | Dipnet, hand picking | Medium gray sand; filamentous algae, Ulvaceae; LW-sub-tidal |
| W7 | 14 | Meadow Point, N. Ballard, King Co. | 47°41½'N 122°24'W | LW | 12.8 | 29.4 | Dipnet | Fine to medium sand, small stones, Zostera, Ulvaceae, epiphytic algae; LW-sub-tidal |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| W8 | 15 | Summerhurst Beach, Maury I., King Co., Puget Sound | 47°21'N 122°27'W | LW | 14.8 | | Dipnet, shovel, hand picking | Fine gray sand, stones, Zostera Ulvaceae, detritus; LW-sub-tidal. Gravel, stones, coarse sand at HW |
| W9 | 16 | Rocky Point, Eld Inlet, Mason Co. | 47°04'N 123°01'W | LW | 19.1 | 24.3 | Dipnet, hand picking | Mud flats, oyster beds, moderately steep shell and mud banks. LW-HW |
| W10 | 16 | Athens Beach, Budd Inlet, Mason Co. | 47°07'N 122°55'W | LW | 17.1 | | Dipnet | Muddy sand, stones, Ulvaceae LW-1/3 R |
| W11 | 17 | Kennedy Creek mouth, head of Oyster Bay, Mason Co. | 47°06'N 123°05'W | LW | 15.8 | brack-ish, vari-able | Dipnet, hand picking | Muddy gravel, Ulvaceae, marsh grasses and roots. MW-HW |
| W12 | 17 | Wildcat Harbor, mouth of Skookum Inlet, Mason Co. | 47°09'N 123°01'W | MW | 17.8 | | Hand picking | Steep mud and shell bank, Crassostrea |
| W13 | 17 | Steamboat I. at Carylon Beach, Mason Co. | 47°11'N 122°56'W | LW | inner side 17.8 outer side 15.9 | 29.3 | Dipnet, hand picking | Gravelly sand, muddy sand, Ulvaceae. LW-MW |
| W14 | 18 | Pt. Brown, mouth of Gray's Harbor, Gray's Harbor Co. | 46°57'N 124°10'W | LW | 16.1 | 31.2 | Dipnet, shovel & screen | Fine gray sand; surf exposed flat beach. LW-sub-tidal |
| W15 | 19 | South Bay, Gray's Harbor at Hwy bridge, Gray's Harbor Co. | 46°52'N 124°03½'W | LW | 17.8 | 25.0 | Dipnet | Thick mud, sandy mud, Zostera at LW, stony abutments |

TABLE I. (cont'd)

| STA-TION NO. | DATE | LOCALITY | LATITUDE LONGITUDE | TIDE | TEMP °C | SAL'Y °/oo | DEPTH & SAMPLING METHOD | HABITAT |
|---|---|---|---|---|---|---|---|---|
| | July | Washington | | | | | | |
| W16 | 19 | Pt. Chehalis, inside breakwater, Westport, Gray's Harbor Co. | 46°54½'N 124°08'W | LW | 16.6 | | Dipnet, shovel, hand picking | Fine sand, muddy sand; breakwater rocks, algae, LW - sub-tidal. Fine sand at HW |
| W17 | 20 | Tokeland, Pacific Co., at Tokepoint Wharf | 46°42½'N 123°58'W | LW | 17.6 | | Dipnet, hand picking | Steep muddy sand and sand shore; LW-HW levels |
| W18 | 20 | Cape Shoalwater, north of point, Pacific Co. | 46°44'N 124°06'W | LW | 16.0 | 27.9 | Dipnet, shovel & screen | Fine sand, surface-exposed flat beach. LW-HW levels |
| W19 | 20 | Ocean Shores, Gray's Harbor Co. | 47°01'N 124°10'W | MW | | | Shovel & screen | Flat, fine, surf-exposed sand and silty sand beach. MW-2/5 R |
| W20 | 21 | Pacific Beach, mouth of Joe Creek, Gray's Harbor Co. | 47°12½'N 124°12'W | LW | 11.3 | 33.3 | Dipnet, shovel, hand picking | Fine to medium sand and silty sand; surf-exposed flat beach |
| W21 | 22 | Taholah, mouth of Quinault R., Gray's Harbor Co. | 47°21'N 124°18'W | LW | 16.0 | low brack-ish- | Dipnet, hand picking, shovel | Dark silty sand, MW-LW. Coarse sand and pebbles at HW |
| W22 | 22 | Pt. Grenville, south side, Gray's Harbor Co. | 47°18'N 124°16'W | LW | 9.8 | 33.4 | Dipnet, hand picking | Fine silty, surf-exposed sand, bedrock and boulders. MW-LW. Small stream mouth at HW level |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| W23 | 22 | Lake Quinault, near Falls Creek, Gray's Harbor Co. | 47°27'N 123°47'W | | 22 | FW | Dipnet | Sand, fine pebbles, grasses and grass roots at shoreline |
| W24 | 23 | Kalaloch Beach, south of creek mouth, Jefferson Co. | 47°36'N 124°22½'W | LW | 10.0 | 33.4 | Dipnet, shovel, hand picking | Fine clean dark sand, surf-exposed flat beach; embedded boulders and algae. LW-HW levels |
| W25 | 23 | Ruby Beach, Jefferson Co. | 47°43'N 124°25'W | MW | | | No collection | Steep gravel and coarse sand, MW |
| W26 | 24 | La Push, mouth of Quillayute R., Clallam Co. | 47°54½'N 124°38½'W | LW | 10.0 | variable | Dipnet | Coarse sand, pebbles, surf shore; pebbles, algae, LW level in estuary |
| W27 | 24 | Lake Crescent, Rosemary Lodge, SE shore, Clallam Co. | 48°01'N 123°47'W | | 19.0 | FW | Dipnet | Small, sharp, wave exposed stones at shoreline |
| W28 | 24 | Lynch Cove, mouth of Little Mission Creek, Mason Co. | 47°26'N 122°52½'W | ½R | 19.0 | | Hand picking | Salt marsh, MHW-EHW levels; among grass roots and debris |
| | 25 | " " | " | LW | 16.8 | 17.9 | Dipnet, hand picking | Coarse sand, muddy sand, Zostera and filamentous algae, oyster flats. LW-MW |
| W29 | 25 | Allyn, Case Inlet, Mason Co. | 47°23'N 122°49½'W | LW | 17.0 | 26.0 | Dipnet, hand picking | Muddy shore, oyster shell banks, wharf pilings. LW-HW levels |
| W30 | 25 | Fort Flagler Beach, Marrowstone I., Kitsap Co. | 48°05½'N 122°43'W | LW | 13.8 | 31.0 | Dipnet | Sand, muddy sand, small stones, Zostera, outer and inner sides of spit. LW-HW |
| W31 | 26 | Marrowstone Isthmus, south side, Jefferson Co. | 48°01'N 122°42'W | LW | | | Dipnet, hand picking | Salt marsh at HW level. Sand and stone shore at LW level |

TABLE I. (cont'd)

| STATION NO. | DATE | LOCALITY | LATITUDE LONGITUDE | TIDE | TEMP °C | SAL'Y °/oo | DEPTH & SAMPLING METHOD | HABITAT |
|---|---|---|---|---|---|---|---|---|
| | July | Washington | | | | | | |
| W32 | 26 | Dungeness Spit, at base, Clallam Co. | 48°06'N 123°09'W | ½R | | | Hand picking | Coarse, surf-exposed sand and gravel erosion beach.. HW level |
| W33 | 27 | Crescent Beach, west end, Clallam Co. | 48°09½'N 123°43½'W | LW | 9.9 | 33.0 | Dipnet, hand picking | Fine, moderately organic flat sand, and Zostera, surf-protected. LW-sub-tidal |
| W34 | 27 | Crescent Beach, east end, Clallam Co. | 48°10'N 123°42½'W | LW | 10.0 | | Dipnet, hand picking | Moderately surf-exposed flat clean sand beach; kelps and Phyllospadix. Conglomerate bedrock and boulders. LW-HW levels |
| W35 | 28 | Agate Beach, west end, Clallam Co. | 48°09½'N 123°44'W | LW | 10.0 | 32.7 | Dipnet, hand picking | Conglomerate bedrock, boulders, gravel, sand patches; kelp and Phyllospadix. LW-HW levels |
| W36 | 29 | Clallam Bay, at river mouth, Clallam Co. | 48°15'N 124°16'W | LW | 11.7 | 25.8 | Dipnet, hand picking | Fine organic sand, embedded boulders, Phyllospadix and Chorda at LW. Coarse to medium sand and stones, MW-HW |
| W37 | 29 | Sekui River mouth, Clallam Co. | 48°17'N 124°24'W | ½R | | | Hand picking | Gravelly sand, fine sand, MW-HW levels |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| W38 | 29 | Mukkaw Bay, opposite Sooes estuary, Clallam Co. | 48°18½'N 124°40'W | ½R | | | Shovel, screen | Fine yellow sand, surf-exposed flat beach. HW-MW levels |
| | 30 | " " | " | ½R | | | Shovel, screen | Sand zonation samples, HW-MW |
| W39 | 30 | Neah Bay at east boat slip, Clallam Co. | 48°22'N 124°36'W | LW | 11.8 | 32.7 | Dipnet, hand picking | Medium coarse sand, muddy sand, Ulvaceae, Chorda at LW. Medium sand and stones, MW-HW |
| W40 | 31 | Mukkaw Bay, at Sooes Pt., Clallam Co. | 48°19'N 124°40'W | LW | 12.3 | 32.6 | Dipnet, hand picking | Fine sand, shelly sand, soft sandstone, bedrock and boulders, kelp, Phyllospadix, Zostera and Chorda. LW-MW levels |
| W41 | 31 | Sooes estuary near mouth; Clallam Co. | 48°19'N 124°39'W | ½R | | | Shovel, screen | Steep, fine to medium sand banks. HW-LW levels |
| W42 | Aug. 1 | Shipwreck Pt., Clallam Co. | 48°19'N 124°27½'W | LW | 11.3 | 32.1 | Dipnet, hand picking | Muddy sand over soft flat sandstone, stones; LW level. Dense algal beds; Phyllospadix and Chorda |
| W43 | 1 | Lake Ozette, northwest end, at outflow; Clallam Co. | 48°09'N 124°40'W | | 19.1 | FW | Dipnet | Coarse sand, grass roots, aquatic plants, at shoreline |
| W44 | 2 | Dungeness Lagoon at Middle Spit, Clallam Co. | 48°07'N 123°07'W | LW | 15.0 | 28.0 | Dipnet, hand picking | Coarse sandy and muddy gravel with beds of Zostera, Ulvaceae at LW level. Coarse sand and stones at HW |
| W45 | 3 | North Head, south end of Long Beach, Pacific Co. | 46°19'N 124°04'W | LW | 10.3 | 33.3 | Dipnet, shovel, screen | Fine silty surf-pounded sand. Sandstone bedrock. LW-HW |

TABLE I. (cont'd)

| STA-TION NO. | DATE | LOCALITY | LATITUDE LONGITUDE | TIDE | TEMP. °C | SAL'Y °/oo | DEPTH & SAMPLING METHOD | HABITAT |
|---|---|---|---|---|---|---|---|---|
| W46 | Aug. 4 | Washington<br>Leadbetter Pt., outer shore, north end Long Beach, Pacific Co. | 46°38'N 124°04'W | LW | 10.5 | 33.4 | Dipnet, shovel, screen | Fine and medium sand; surf-exposed flat beach. LW-HW |
| W47 | 4 | Nahcotta, at breakwater; Willapa Bay, Pacific Co. | 46°30'N 124°01'W | LW | 17.9 | | Dipnet, hand picking | Sandy mud, oyster shells and Zostera; sandstones at LW; medium find sand, MW-HW |
| W48 | 5 | Chinook, west of town wharf, Pacific Co. | 46°17'N 123°57'W | LW | 17.1 | 11.5 | Dipnet, hand picking | Muddy sandflats, pilings, LW. Salt marsh grasses, sand at HW |
| W49 | 5 | Megler, north end of new highway bridge, Pacific Co. | 46°14½'N 123°53'W | LW | 17.0 | brack-ish | Dipnet, hand picking | Moderately steep, exposed sandy shores; LW-HW |
| W50 | 6 | Oregon<br>Cannon Beach, opposite Bird Rocks, Clatsop Co. | 45°54½'N 123°58'W | LW | 10.5 | 33.8 | Dipnet, shovel, screen | Surf-exposed, fine clean sand, bedrock, kelp, LW-HW levels |
| W51 | 6 | Seaside, mouth of Necanicum R., Clatsop Co. | 46°01'N 123°55'W | LW | | brack-ish | Dipnet, hand picking | Outer beach, fine flat sand. Inner estuary, muddy sand, small stones. LW-HW |
| W52a | 7 | Clatsop Spit, at base of South Jetty, Clatsop Co. | 46°13½'N 124°01½'W | LW | 9.2 | 33.8 | Dipnet | South beach, fine flat sand |
| W52b | | " " | " | LW | 16.0 | brack-ish | Dipnet, hand picking | Inside breakwater, fine sand, granitic blocks, fucoids; LW-HW |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| W53 | 8 | Neahkannie Beach near Manzanita, Tillamook Co. | 45°44'N 123°56½'W | LW | 8.9 | 33.8 | Dipnet, shovel, hand picking | Fine yellow sand, surf-exposed flat beach; boulders, red algae; LW-HW |
| W54 | 10 | Mary's River, 2 miles west of Philomath, Benton Co. | 44°32'N 123°23'W | | 27.0 | FW | Dipnet | Bedrock, sand, stones, woody detritus, riffles; slow flow |
| W55 | 11 | Lost Creek, 7 miles south of Newport, Lincoln Co. | 44°32½'N 124°04'W | ½R | | brack-ish | Dipnet, shovel, screen, hand picking | Fine yellow sand, drift logs, MW-supratidal stream shores |
| W56 | 12 | Heceta Beach, Lane Co. | 44°02½'N 124°08'W | ½R | 9.1 | | Shovel, screen | Fine yellow sand, flat surf-exposed beach. MW-HW levels |
| W57 | 12 | Cape Perpetua at Devil's Churn, Lane Co. | 44°17'N 124°07'W | ½R | | brack-ish | Dipnet, hand picking | Lava bedrock, surf-exposed. HW - rock pools |
| W58 | 13 | Seal Rock, Lincoln Co. | 44°29'N 124°05'W | LW | 9.0 | 34.0 | Dipnet, hand picking | Sandstone bedrock, sand; kelps, Chorda, Phyllospadix and fucoids |
| W59 | 14 | Agate Beach, north end, Lincoln Co. | 44°40'N 124°03½'W | MW | 8.0 | | Dipnet | Medium coarse surf-exposed sand, embedded boulders |
| W60 | 14 | Otter Rock at Marine Gardens, Lincoln Co. | 44°45'N 124°04'W | LW | 8.8 | 33.7 | Dipnet, shovel, screen | Sandstone bedrock, algal covered, MW-LW. Sand, woody debris at HW |
| W61 | 15 | Neskowin Beach, Tillamook Co. | 45°05½'N 123°59'W | LW | 9.0 | 33.9 | Dipnet, shovel & screen, hand picking | Surf-exposed, medium sand, shelly sand, volcanic bedrock; LW-HW |

TABLE I. (cont'd)

| STATION NO. | DATE | LOCALITY | LATITUDE LONGITUDE | TIDE | TEMP. °C | SAL'Y °/oo | DEPTH & SAMPLING METHOD | HABITAT |
|---|---|---|---|---|---|---|---|---|
| | | Oregon | | | | | | |
| W62 | Aug. 15 | "D" River, outlet of Devil's Lake, Lincoln Co. | 44°58'N 124°01'W | ½R | 24.0 | FW | Dipnet, hand picking | Fine sand, stones, gravel filamentous algae, HW-supra tidal |
| W63 | 16 | Cape Kiwanda, north side, Tillamook Co. | 45°13½'N 123°58½'W | LW | 8.5 | 34.0 | Dipnet, shovel, hand picking | Surf-exposed flat fine sand; sandstone and shale bedrock; LW-HW levels |
| W64 | 17 | Netart's Bay at Wilson Beach, Tillamook Co. | 45°25½'N 123°56'W | LW | 12.2 | variable | Dipnet, shovel,& screen | Coarse sand, gravel, shells, Zostera. LW-sub-tidal |
| W64a | | Near mouth of bay, north side, Tillamook Co. | 45°26½'N 123°57'W | LW | | | Shovel & screen | Fine to medium sand, steep beach. LW level |
| W65 | 17 | Tillamook Bay at base of Fitcher Pt., Tillamook Co. | 45°30½'N 123°56½'W | LW | 13.5 | brackish | Dipnet, hand picking | Coarse organic sand, thick mud, embedded stones. MW-LW levels |
| W66 | 17 | Cape Meares, north side, Tillamook Co. | 45°30'N 123°58'W | ¼R | 9.2 | | Dipnet, shovel & screen | Fine sand, surf-exposed, MW-HW. Sand-embedded stones at LW |

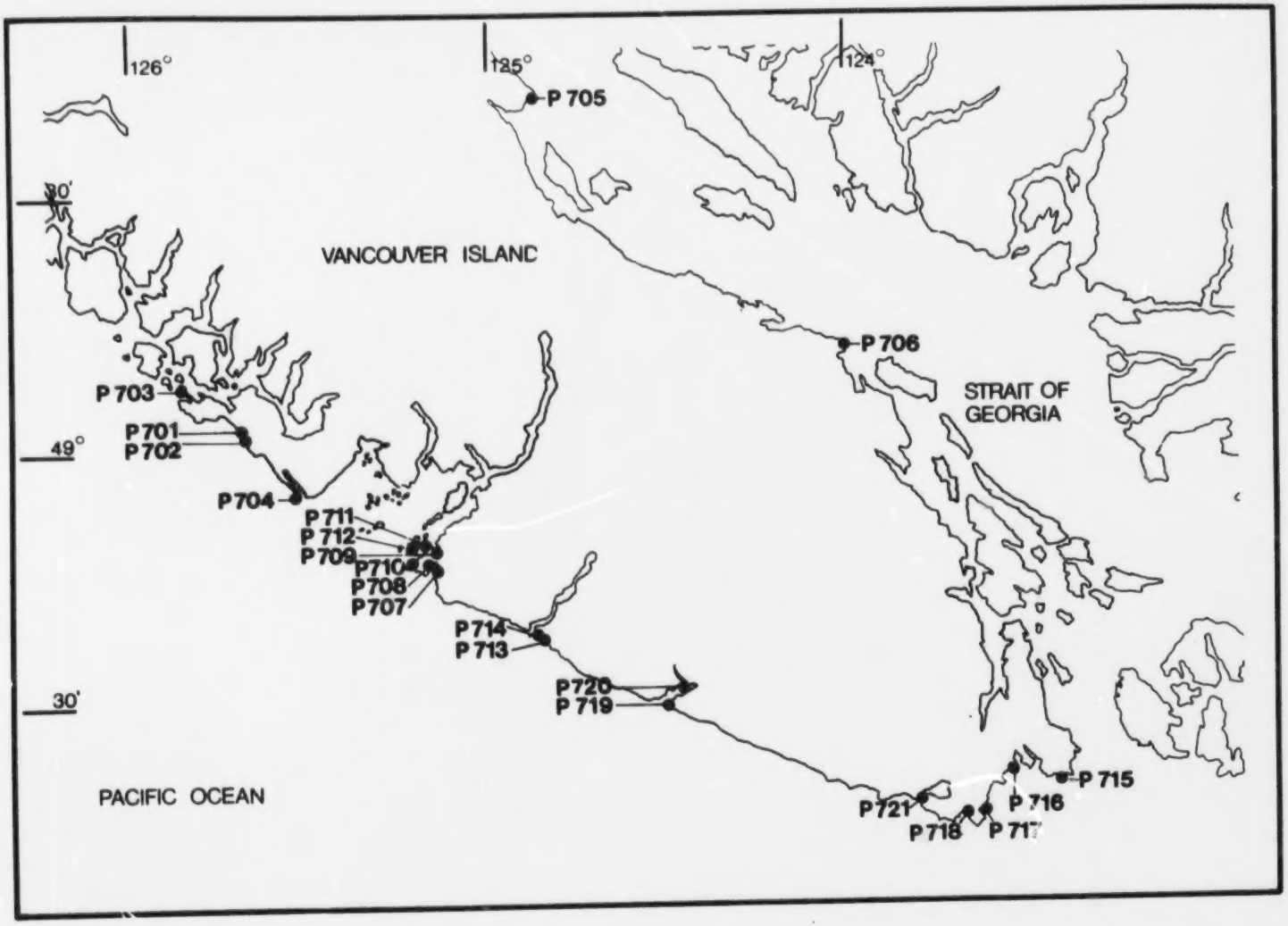


Fig. 8. Collecting localities in Vancouver Island, 1970

TABLE II. COLIECTING STATIONS, VANCOUVER ISLAND, 1970

(Collectors: E.L. Bousfield, Barbara, Marjorie, Mary and Kenneth Bousfield; L. Druehl)

| STA-TION NO. | DATE | LOCALITY | LATITUDE LONGITUDE | TIDE | TEMP. °C | SAL'Y °/oo | DEPTH & SAMPLING METHOD | HABITAT |
|---|---|---|---|---|---|---|---|---|
| P701 | July 5 | Long Beach, south end | 49°02'N 125°40'W | LW | 11.0 | | Dipnet, shovel & screen | Hard, flat, surf-exposed sand. LW-HW levels |
| P702 | 6 | Long Beach, south end | 49°02'N 125°40'W | LW | 11.0 | | Dipnet, hand picking | Bedrock, kelp, Phyllospadix, fucoids, LW-MW levels |
| P703 | 7 | McKenzie Beach | 49°07½'N 125°54'W | LW | 13.5 | | Dipnet, shovel & screen | Protected ripple sand, kelp holdfasts, eel grass |
| P704 | 8 | Amphitrite Point | 48°55'N 125°32'W | HW | 12.5 | | Dipnet, hand picking | Bedrock, kelp; LW-HW plus supratidal pools |
| P705 | 13 | Cape Lazo | 49°43'N 124°52'W | LW | 16.0 | | Dipnet, hand picking | Stones, reducing sand, Ulva, wave exposed |
| P706 | 14 | Piper's Lagoon | 49°14'N 123°58'W | LW | 17.5 | | Dipnet, hand picking | Gravel, sand and mud flats, LW-HW levels |
| P707 | 16 | Pachena Bay, south-east end | 48°47.5'N 125°07'W | LW | 16.1 | | Dipnet, hand picking | Surf-exposed gravelly sand, fine sand, boulders, bedrock Phyllospadix; LW-MW |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| P708 | 17 | Pachena Bay, north-west end | 48°47.6'N 125°07.5'W | LW | 16.0 | Dipnet, shovel & screen | Sand flats, ripple sand at LW level |
| P709 | 18 | Bamfield Harbour at head | 48°48.8'N 125°09'W | LW | 14.0 | Dipnet | Gravel and mud flats, eel grass beds, kelp, stones, shell at LW |
| P710 | 19 | Cape Beale | 48°47.2'N 125°13'W | LW | 13.0 | Dipnet, shovel & screen | Bedrock, boulders, kelp, Phyllospadix, partly wave exposed. Protected sandy cove |
| P711 | 20 | Brady's Beach | 48°49.8'N 125°09.5'W | LW | 13.5 | Dipnet, hand picking | Steep, fine sand beach; bedrock, boulders, algae |
| P712 | 21 | Hanes I., Trevor Channel | 48°47'N 125°25'W | LW | 12.5 | Dipnet, shovel & screen | Bedrock, boulders, kelp, eel grass and shelly sand. Semi-protected, LW-MW |
| P713 | 23 | Clo-oose, main beach | 48°40'N 124°49'W | LW | 11.5 | Dipnet, shovel & screen | Steep coarse to medium, wave-exposed sand. LW-HW levels |
| P714 | 24 | Clo-oose, at settlement | 48°41'N 124°49'W | LW | 11.5 | Dipnet, hand picking | Bedrock and boulders, kelp and Phyllospadix, coarse sand |
| P715 | 29 | Gonzales Bay, Victoria | 48°25'N 123°20'W | LW | 11.2 | Dipnet, hand picking | Bedrock, kelp (Alaria, Egregia), fine sand over pebbles. LW-HW levels |
| P716 | 30 | Esquimault Lagoon | 48°26'N 123°28'W | LW | 11.8 | Dipnet, shovel | Fine ripple sand at LW and sub-tidal. Small pebbles and algae. Sand at HW |

TABLE II. (cont'd)

| STATION NO. | DATE | LOCALITY | LATITUDE LONGITUDE | TIDE | TEMP. °C | SAL'Y °/oo | DEPTH & SAMPLING METHOD | LOCALITY |
|---|---|---|---|---|---|---|---|---|
| P717 | July 31 | Weir Beach, William Head | 48°21'N 123°32'W | LW | 10.6 | | Dipnet, shovel & screen | Fine slightly organic sand; wave protected. LW-HW levels |
| P718 | 31 | Becher Bay, at head | 48°21'N 123°35'W | LW | 10.4 | | Dipnet, hand picking | Steep shores, bedrock, stones, gravel, algae. LW-MW levels |
| P719 | Aug. 1 | Botanical Beach, Cape San Juan | 48°31'N 124°28'W | LW | 11.0 | | Dipnet, hand picking | Vertically bedded slate bedrock, boulder, kelp, algae, Lithothamnion. LW-HW levels |
| P720 | 1 | Port Renfrew Beach | 48°33'N 124°26'W | MW-HW | 15.0 | | Shovel & screen, hand picking | Coarse sand over gravel. MW-HW levels |
| P721 | 2 | East Sooke, inside point | 48°22'N 123°43'W | LW | 12.0 | | Dipnet, hand picking | Gravel, bedrock, kelp, Ulva, LW-HW levels |

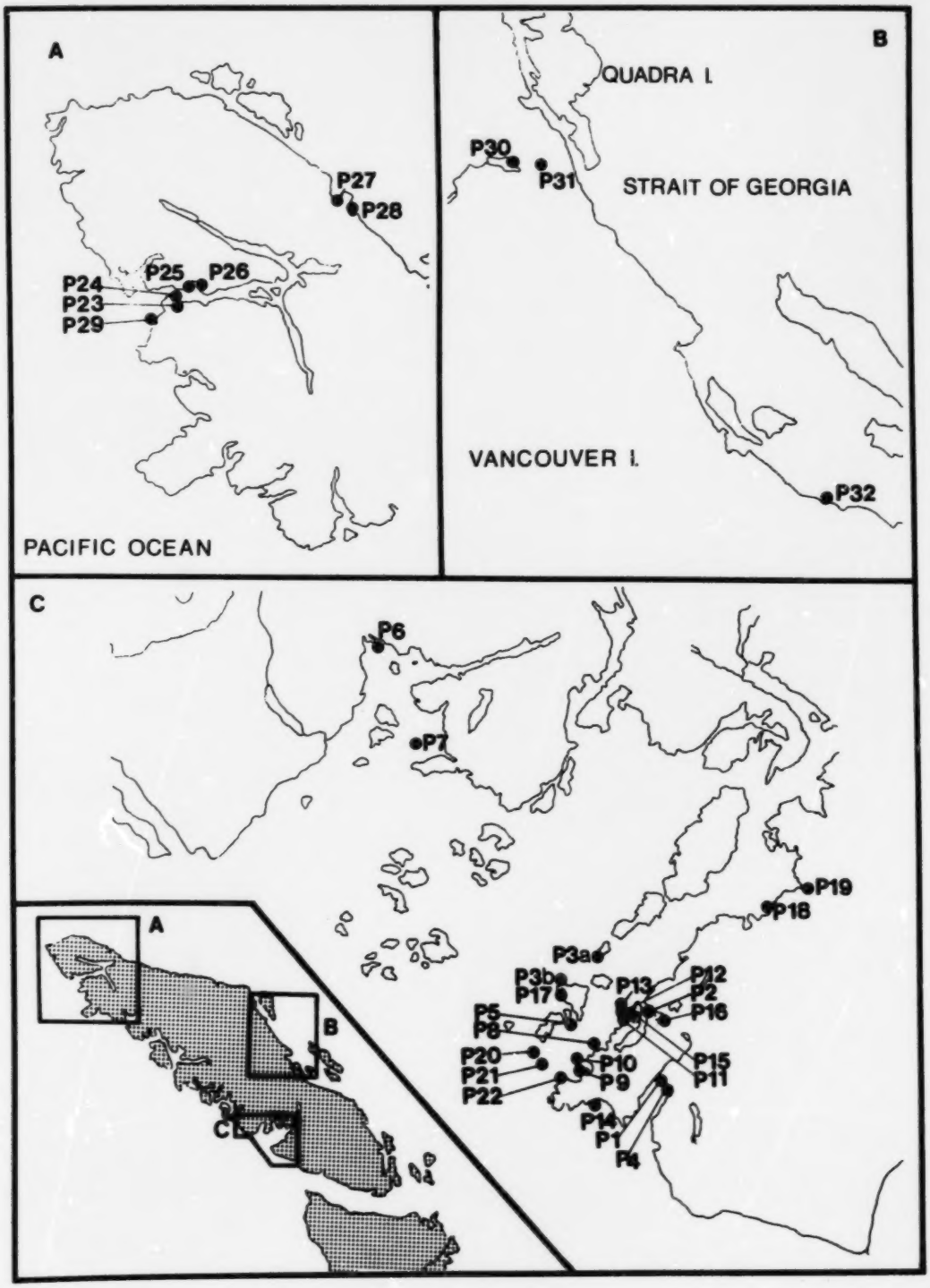


Fig. 9. Collecting localities in Vancouver Island, 1975

TABLE III. COILECTING STATIONS, VANCOUVER ISLAND, 1975

(Collectors: E.L. Bousfield; Barbara, Marjorie, Mary and Kenneth Bousfield; L. Druehl; C. Levings; C. Haylock, M. Haylock, S. Tveit and crew R/V LEIK; J. Eilerton)

| STATION NO. | DATE | LOCALITY | LATITUDE LONGITUDE | TIDE | TEMP. °C | SAL'Y °/oo | DEPTH & SAMPLING METHOD | HABITAT |
|---|---|---|---|---|---|---|---|---|
| P1 | July 22 | Pachena Bay, beach at head | 48°47½'N 125°07'W | LW | c.14 | 32+ | Dipnet, shovel & screen | a) Subtidal flat sand, surf<br>b) LW-MTL flat sand<br>c) MW-LW ripple sand<br>d) HW drift |
| P2 | 23 | Bamfield Marine Laboratory at small boat wharf | 48°50'N 125°08'W | LW | c.13 | c.30 | Dipnet, hand picking | Float log fouling community at surface |
| P3a | 23 | Sandford I., SW side, Trevor Channel | 48°52'N 125°10'W | LW | c.12 | 32+ | Dipnet | Bedrock and boulders, brown algae, kelp, tide pools |
| P3b | 23 | Diana I. | 48°51'N 125°12½'W | LW | c.12 | | Dipnet, hand picking | Bedrock and algae, kelp |
| P4 | 24 | Pachena Bay, centre islands | 48°47½'N 125°07'W | LW | c.14 | | Dipnet, shovel & screen | a) Sand flats LW-MW<br>b) Sand at HW level |
| P5 | 25 | Taylor I., Trevor Channel | 48°49½'N 125°12'W | LW | c.12 | 32+ | Dipnet, hand picking | a) Bedrock, kelp, Phyllospadix clumps<br>b) Subtidal kelp & rock walls<br>c) Ascidians & sponges under large boulders<br>d) Under stones & pebbles at LW-MW level<br>e) HW spray pools |
| | | | | | 15+ | low brack-ish | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| P6 | 26 | Toquart Bay, NW side Barkley Sound | 49°02'N 125°20½'W | LW | 15+ | brack-ish | Dipnet, shovel & screen, hand picking | a) Coarse sand, stones, eel grass<br>b) Coarse sand, mud, eel grass<br>c) Mouth of FW stream<br>d) HW drift line, sand |
| P7 | 26 | Mayne Bay, head of Loudoun Channel | 48°59'N 125°19'W | MW | <10 | 32+ | 46 m trawl | Mud. Ratfish, Loligo, Ophiuroidea |
| P8 | 29 | Trevor Channel, off Execution Rock, 400 m | 48°49'N 125°11'W | | <10 | 33+ | 20-24 m Agassiz dredge | Coarse sand, Cumacea, burrowing amphipods |
| P9 | 29 | Trevor Channel, off Long Beach | 48°48'N 125°11½'W | | <10 | 33+ | 20-24 m bottom dredge | Shelly sand |
| P10 | 29 | Trevor Channel, off Long Beach | 48°48'N 125°11½'W | | <10 | 32 | 30 m Ponar grab | Coarse sand. Cumacea, burrowing amphipods |
| P11 | 29 | Off Brady's Beach 200 m | 48°50'N 125°09½'W | | | | 6-24 m dredge | Medium sand and algae. Ophiuroids, burrowing amphipods (Photis) |
| P12 | 29 | Off Brady's Beach, 300-400 m | 48°50'N 125°09½'W | | <10 | >32 | 30 m dredge | Sand and algae. Bivalves |
| P13 | 29 | Trevor Channel, off Brady's Beach | 48°50½'N 125°09½'W | | <10 | >32 | 34 m 2 Ponar grabs | Muddy sand |

TABLE III. (cont'd)

| STATION NO. | DATE | LOCALITY | LATITUDE LONGITUDE | TIDE | TEMP. °C | SAL'Y °/oo | DEPTH & SAMPLING METHOD | HABITAT |
|---|---|---|---|---|---|---|---|---|
| P14 | Aug. 2 | Keeha Bay, NW end at head | 48°47'N 125°11'W | LW | <10 | >33 | 4-12 m Naturalist's dredge 3 hauls | Fine and medium sand |
| | | | | HW and supratidal | | | | Steep sand |
| P15 | 3 | Bamfield, Vancouver I., at Bristol Foster's cabin | 48°50'N 125°08½'W | | 10 | FW | Dipnet | Cold clear spring, moss and woody detritus |
| P16 | 5 | Grappler Inlet (near Bamfield) | 48°50'N 125°07'W | LW-HW | c.13 | 32 | Dipnet, hand picking, 4-8 m dredge | a) Intertidal shelly mud Zostera, stones, bedrock<br>b) Subtidal, stones, echinoderms, kelp |
| P17 | 6 | Diana I., Kirby Point Bay | 48°51'N 125°12'W | LW | c.12 | >32 | Dipnet | a) Shelly sand, Zostera and Phyllospadix flats |
| | | | | | | | Hand picking | b) Coarse sand and gravel at drift line |
| | | | | | | FW | | c) Small cold brook mouth<br>d) Rocky shore, sponges ascidians and kelp |
| | | | | | | | 4-8 m Naturalist's dredge | e) Sand and stones |
| P18 | 8 | Christie Bay, NW end, near Sarita | 48°53'N 125°02'W | LW | c.15 | 25 | Dipnet, hand picking | a) Bedrock, gravel, stones, Zostera, algae; flats |
| | | | | | c.10 | FW | | b) Log (bark) MW |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| P19 | 8 | Sarita R., estuary, 1.4 km, above mouth | 48°54'N 125°0½'W | LW | c.15 | <10 | Dipnet, hand picking | a) Gravel, stones, Enteromorpha, kelp (logs)<br>b) Under drift debris in salt grass at upper barnacle level |
| P20 | 9 | Bordelais Islets, entrance to Trevor Channel | 48°49'N 125°13½W | LW | c.12 | 33+ | Dipnet, hand picking | a) In Phyllospadix roots and under stones<br>b) In kelp holdfast, on rock<br>c) In sponges, tunicates, on rocky walls of surge channels |
| P21 | 9 | Trevor Channel, off Bordelais Islets | 48°48½'N 125°13½'W | HW | <10 | 33+ | 44 m, Ekman grab heavy<br>44-50 m, light dredge (line) | a) Fine sand<br>b) Fine sand, shell |
| P22 | 9 | Trevor Channel, off Cape Beale 300 m | 48°48'N 125°12½'W | HW | 10 | 33+ | 30 m dredge | Sand, shell, stones, Olivella, Crangon Cumacea |
| P23 | 14 | Quatsino Sound, mouth of Mahotta Creek, Koskimo Bay | 50°27½'N 127°51½'W | LW | c.12 | 33+ | Hand picking 2-4 m, Naturalist's dredge 4 m, dredge | a) Sand and stony beach at HW level<br>b) Sand, Zostera, Ulva<br>c) Eel grass, muddy debris |
| P24 | 14 | Koskimo Bay, at anchorage | 50°28'N 127°51½'W | LW | c.10 | 33 | 24-30 m | Mud, silt, debris. Amphipod community |

TABLE III. (cont'd)

| STATION NO. | DATE | LOCALITY | LATITUDE LONGITUDE | TIDE | TEMP. °C | SAL'Y °/oo | DEPTH & SAMPLING METHOD | HABITAT |
|---|---|---|---|---|---|---|---|---|
| P25 | Aug. 14 | Robson Cove, Dockyard I., to Schloss I., channel | 50°30'N 127°52'W | | <10 | 33+ | 16 m, dredge | Stones, algae, debris. Decapod shrimp, Turbo |
| P26 | 14 | Koprino Harbour, Schloss I., to Ives Pt., off Sand Flats | 50°30'N 127°51½'W | MW | >10 | >33 | 12-16 m dredge | Mud, shell, debris |
| P27 | 15 | Small streams, 3 km east Port Hardy marine highway | 50°41'N 127°27½'W | | c.15 | FW | Dipnet | Tea brown, acid stream; lentic |
| P28 | 15 | Beaver Harbour | 50°42'N 127°25'W | MW-HW | 13 | 32 | Dipnet, shovel & screen | Fine sand, beach at west end |
| P29 | 16 | Gooding Cove, entrance to Quatsino Sound | 50°24'N 127°57'W | LW-MW | 11 | >33 | 12-14 m, dredge<br>8 m, dredge<br>Hand picking | a) Gravel, coarse sand, algae<br>b) Sand, needles, woody debris<br>c) Fine sand, detritus<br>d) Medium fine sand, MW-HW |
| P30 | 17 | Campbell Lake, north end at old RR bridge | 49°52'N 125°28'W | | 15-16 | FW | Dipnet | Stones, gravel, grasses near shore (fluctuating water level) |
| P31 | 17 | Gosling Lake (?) at camp 25 km above Campbell R., on highway | 49°54'N 125°25'W | | 14 | FW (acid) | Dipnet | Woody debris, Nuphar, stones |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| P32 | 18 | Little Qualicum Beach | 49°24½'N<br>124°37'W | LW | 17 | 27 | Dipnet,<br>hand<br>picking | a) Fine ripple sand; gravel and sand<br>b) HW drift debris |

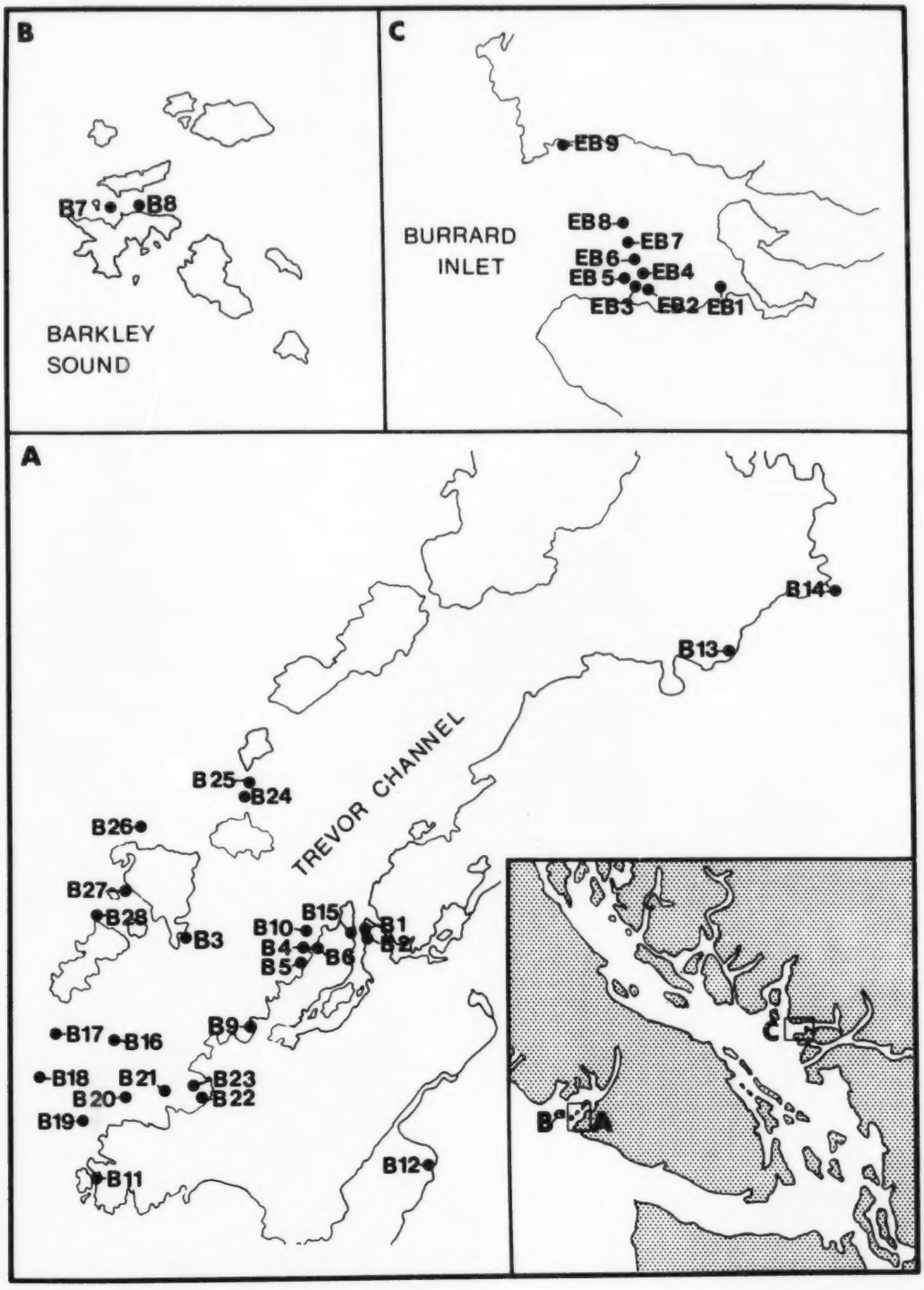


Fig. 10. Collecting localities in Vancouver Island and Burrard Inlet, 1976

TABLE IV. COLLECTING STATIONS, VANCOUVER ISLAND AND BURRARD INLET, 1976

(Collectors: E.L. Bousfield, Sandy Matheson and crew R/V ACTIVE LASS, F. Rafi, M. Haylock, A. Spencer, I. Lawn, S. Tveit and crew R/V LEIK, BMS students)

| STATION NO. | DATE | LOCALITY | LATITUDE LONGITUDE | TIDE | TEMP. °C | SAL'Y °/oo | DEPTH & SAMPLING METHOD | HABITAT |
|---|---|---|---|---|---|---|---|---|
| EB1 | June 16 | English Bay, off Kitsilano Point, Burrard Inlet | 49°16'N 123°10'W | | | | Van Veen grab, 6 m | Heavy mud; worms, molluscs |
| EB2 | 16 | English Bay, off Jericho Beach, Burrard Inlet | 49°16'N 123°11'W | | | | Van Veen grab, 2 m | Sandy mud; molluscs |
| EB3 | 16 | English Bay, off Jericho Beach, Burrard Inlet | 49°16'N 123°11.5'W | | | | Ponar grab, 4 m | Sand. Worms, Cumacea Exosphaeroma |
| EB4 | 16 | English Bay off Jericho Beach, Burrard Inlet | 49°17'N 123°11'W | | | | Ponar grab, 4 m | Sandy mud. Cumacea, Amphipoda |
| EB5 | 16 | English Bay, off Jericho Beach, Burrard Inlet | 49°16.5'N 123°12'W | | | | Naturalist's dredge, 10 m | Mud. Copepoda, Cumacea, Amphipoda |
| EB6 | 16 | Off Spanish Bank marker, Burrard Inlet | 49°18'N 123°11.5'W | | | | 2-10 m | Sand and wood chips. Cumacea Amphipoda |
| EB7 | 16 | Off Spanish Bank marker, Burrard Inlet | 49°18.5'N 123°11.5'W | | | | 26 m | Muddy sand. Mollusca, Polychaeta, Copepoda, Amphipoda |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| EB8 | 16 | Off Spanish Bank marker, Burrard Inlet | 49°19'N 123°12'W | | | | 40 m | Mud. Mollusca, a few crustaceans |
| EB9 | 16 | Stearman Beach, Burrard Inlet | 49°21'N 123°15'W | MW-HW | | | Dipnet, hand picking | Stones, bedrock. Amphipoda |
| B1 | 24 | Bamfield Marine Station at main float | 48°50'N 125°08'W | Surface | c.13 | c.30 | Dipnet, hand picking | Blocks suspended from dock. Hydroid fouling communities |
| B2 | 24 | Bamfield Marine Station, main float, logs north end | 48°50'N 125°08'W | | c.13 | c.30 | Dipnet | Fouling organisms at ends of logs. Mussels, algae, hydroids |
| B3 | 25 | Diana I., Trevor Channel beach, south side | 48°50.2'N 125°11'W | LW-HW | c.12 | 32+ | Dipnet, hand picking | a) Kelps, encrusting algae on boulders and bedrock; LW, Phyllospadix roots<br>b) Under stones; MW<br>c) Sand and under logs; HW |
| B4 | 25 | Off Brady's Beach | 48°50.3'N | | c.10 | 32+ | 60-70 m Naturalist's dredge | Sand and algae. Amphipod communities |
| B5 | 26 | Brady's Beach, south end | 48°49.8'N 125°09'W | LW-HW | c.13 | 32+ | Dipnet, hand picking | a) Boulders embedded in sand, Phyllospadix, kelp, brown algae; LW<br>b) Sand at MW-HW level<br>c) HW pools |
| B6 | 26 | Brady's Beach, north end | 48°50'N 125°09'W | HW | c.13 | 30+ | Shovel & screen | Sand of various texture<br>a) Fine sand middle and south beach<br>b) Coarse sand above shell |

TABLE IV. (Cont'd)

| STATION NO. | DATE | LOCALITY | LATITUDE LONGITUDE | TIDE | TEMP. °C | SAL'Y °/oo | DEPTH & SAMPLING METHOD | HABITAT |
|---|---|---|---|---|---|---|---|---|
| B7 | June 27 | Broken I., west side of Wouwer I. | 48°51.6'N 125°21'W | LW | c.12 | 32+ | Dipnet, hand picking | Bedrock, Phyllospadix, kelp<br>Under rock sponges, holdfast boulders. Amphipod communities |
| B8 | 27 | East Bay, Wouwer I. | 48°51.7'N 125°21'W | LW & HW | c.14 | 32+ | Dipnet, hand picking | Fine gravel, clam beds, Ulva; sand at HW |
| B9 | 28 | Trevor Channel off Second Beach | 48°49'N 125°10.4'W | | c.10 | 32+ | 16 m dredge; fine mesh dredge; 20-24 m grab; 24 m grab; 14-16 m Ponar grab; | a) Rock and sand<br>b) Not successful; few shrimps<br>c) Medium sand<br>d) Fine sand<br>e) Coarse sand, inshore |
| B10 | 28 | Trevor Channel, off Brady's Beach | 48°50.1'N 125°09'W | | c.8 | 32+ | 30-34 m Ponar grab; 20 m grab; 10 m Ponar grab; 10-20 m large dredge; | a) Shelly sand<br>b) Fine sand<br>c) Sand<br>d) Sand |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| B11 | 29 | Cape Beale, sand flat behind island at west end | 48°47.3'N 125°12'W | LW-½R | c.12 | | Dipnet; shovel & screen | a) At extreme LW sandflat, shelly mud, barnacles and worms, shell, eel grass<br>b) At main LW and above at upper border of Zostera, sandy mud |
| B12 | July 1 | Pachena Bay | 48°47½'N 125°07'W | LW | c.13 | 26-28 | Dipnet | Open light surf sand, rocks, boulders, Phyllospadix, Eudistylus tubes, dead and alive |
| B13 | 2 | Christie Bay | 48°53.0'N 125°02'W | LW-½R | c.14 | 26 | Dipnet | Bedrock, muddy sand eel grass, algae. Fine gravel, subtidal |
| B14 | 2 | Sarita River estuary near mouth | 48°53.2'N 125°0.5'W | LW | c.14 | <10 | Dipnet, | a) River bed stones, old logs at LW, fucoids |
| | | | | MW-HW | 13 | 0-10 | hand picking | b) Under stones, stream<br>c) Carex roots |
| B15 | 4 | Bristol Foster's spring, Bamfield | 48°50'N 125°8½'W | | 5 | FW | Dipnet | Small cold spring, wood chips, moss |
| B16 | 5 | Trevor Channel at mouth, off Bordelais and Edward King I. | 48°48.7'N 125°12.5'W | | c.8 | 33+ | 44-50 m dredge (heavy) | Sand and gravel. Amphipods and mysids |
| B17 | 5 | Off Bordelais Islet, Trevor Channel | 48°47.8'N 125°13.6'W | | c.8 | 33+ | 44 m dredge | Sandy, gravel. Amphipods |
| B18 | 5 | Off Bordelais Islet | 48°48.5'N 125°14.0'W | | c.8 | 33+ | 46 m dredge | Gravelly sand (rich haul of amphipods) |
| B19 | 5 | 800 m, off Cape Beale | 48°48.2'N 125°13.0'W | | c.8 | 33+ | 40 m dredge | Gravel, rounded (very poor fauna) |

TABLE IV. (cont'd)

| STATION NO. | DATE | LOCALITY | LATITUDE LONGITUDE | TIDE | TEMP. °C | SAL'Y °/oo | DEPTH & SAMPLING METHOD | HABITAT |
|---|---|---|---|---|---|---|---|---|
| B20 | July 5 | Off Long Beach | 48°48.0'N 125°12.0'W | | c.8 | 33+ | 30 m dredge | Gravel, stones (small). Amphipods and mysids |
| B21 | 5 | Off Long Beach | 48°48.2'N 125°11.3'W | | c.8 | 33+ | 20-22 m Naturalist's dredge | Gravel, rich in pontogeneiid amphipods |
| B22 | 5 | Off Long Beach | 48°48.2'N 125°11.0'W | | c.10 | 32+ | 12-20 m Naturalist's dredge | Fouled by diatom strings. Amphipod community |
| B23 | 5 | Off Long Beach | 48°48.5'N 125°11.0'W | | c.10 | 32+ | 8 m Naturalist's dredge | Fouled by detritus (very poor fauna) |
| B24 | 8 | Helby and Diana I., Satellite Passage off Helby I. | 48°51.5'N 125°10.4'W | | c.10 | 32+ | 40 m dredge | Worm tubes, shells. Ampelisca community |
| B25 | 8 | Satellite Passage, SE of Sandford I. | 48°51.5'N 125°10.5'W | | c.10 | 32+ | 30-40 m | Shell, algae, eelgrass, coral. Tunicates, Ericthonius |
| B26 | 8 | North of Diana I. | 48°51.2'N 125°11.6'W | | c.10 | 32+ | 24-35 m dredge | Shelly mud and stones. Mollusc community |
| B27 | 8 | Dodger Channel, SW end Diana I. | 48°50.4'N 125°12.1'W | | c.10 | 32+ | 8-10 m Naturalist's dredge | Sand. Amphipod community |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| B28 | 10 | Edward King I. | 48°50.2'N<br>125°12.5'W | LW-HW | c.12 | 32+ | Dipnet,<br>hand<br>picking | a) Bedrock, boulders, algae *Phyllospadix* roots. LW sponge<br>b) MW under rocks<br>c) HW pools. *Hyale* community |

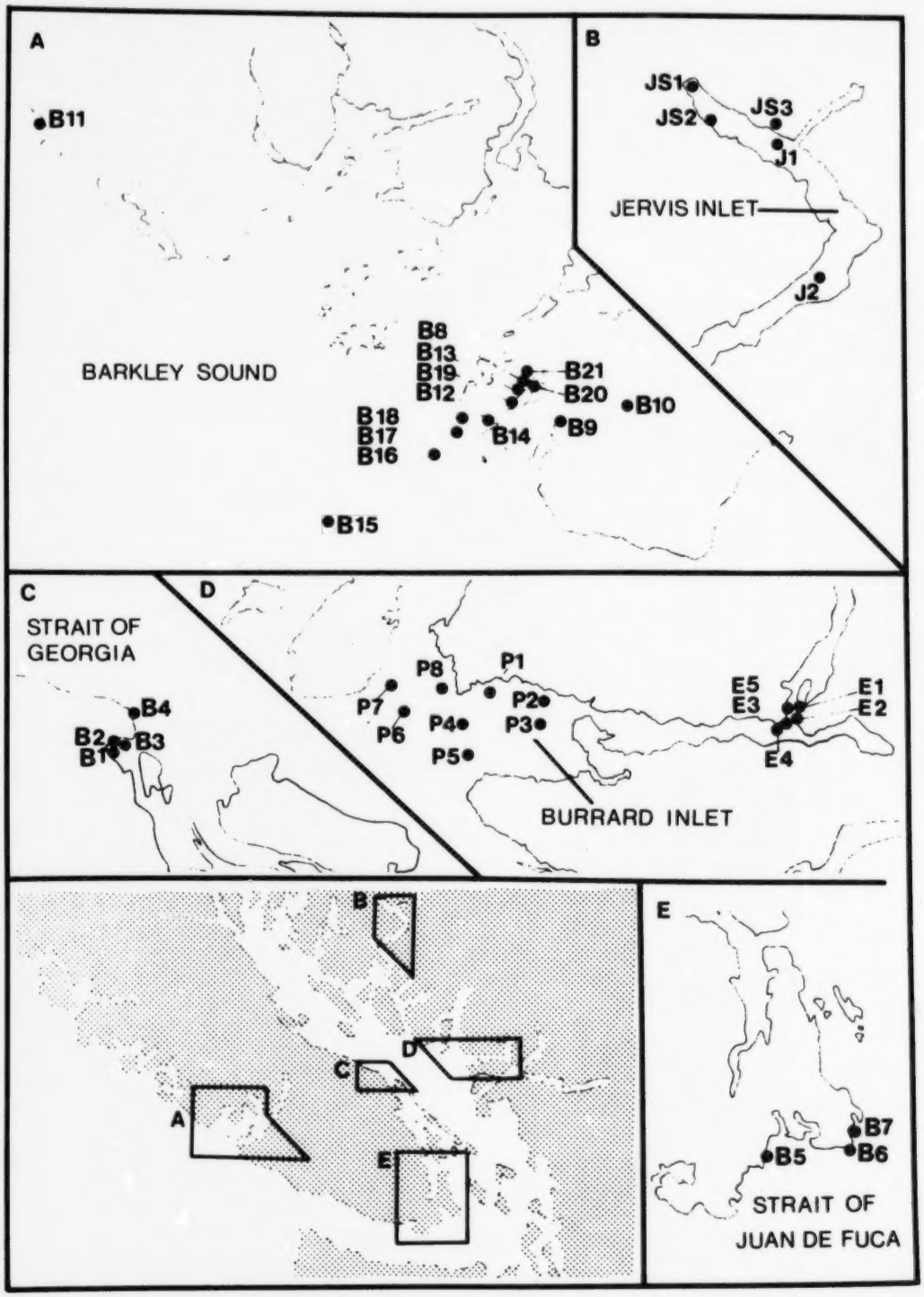


Fig. 11. Collecting localities in Vancouver Island, Jervis Inlet, and Burrard Inlet, 1977

TABLE V. COLLECTING STATIONS, VANCOUVER ISLAND, JERVIS INLET AND BURRARD INLET, 1977

(Collectors: E.L. Bousfield, F. Rafi, J.F.L. Hart, R. Long, S. Tveit and crew R/V LEIK, S. Matheson and crew R/V ACTIVE LASS, C. Levings, G. Christie, Capt. Marsden and crew R/V VECTOR)

| STATION NO. | DATE | LOCALITY | LATITUDE LONGITUDE | TIDE | TEMP. °C | SAL'Y °/oo | DEPTH & SAMPLING METHOD | HABITAT |
|---|---|---|---|---|---|---|---|---|
| B1 | May 14 | Departure Bay, north of Nanaimo off Hammond Beach | 49°12'N 123°56'W | LW | | | 17-5 m Naturalist's dredge | Sandy mud and algal roots |
| B2 | 14 | " " | " | | 10 | | 1-3 m | Sand, eelgrass |
| B3 | 14 | " " | " | | | | 33-17 m Naturalist's dredge | Ooze and debris |
| B4a | 15 | Piper's Lagoon | 49°14'N 123°58'W | LW & subtidal | | | Dipnet | Stones and boulders, algae LW-MW |
| B4b | 15 | " " | " | | | | Shovel & screen | Sandy mud, LW-MW |
| B4c | 15 | " " | " | HW | | | Hand picking | Drift debris, HW |
| B5a | 17 | Witty's Lagoon, west of Victoria | 48°22'N 123°29'W | Subtidal | c.9 | c.33 | Dipnet | Dark organic ripple sand |
| B5b | 17 | " " | " | LW | | | Shovel & screen | Sand surface |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| B5c | 17 | Witty's Lagoon, west of Victoria | 48°22'N 123°29'W | LW | | | Shovel & screen | Sand pool, worm burrows |
| B5d | 17 | " " | " | LW | | | Dipnet | In floating Ulvaceae |
| B5e | 17 | " " | " | MW | | | Dipnet | Ripple sand, mostly around boulders |
| B5f | 17 | " " | " | HW | | | Shovel, hand picking | Debris, in sand |
| B6a | 18 | Trial I. Point, Victoria | 48°24'N 123°19'W | LW sub-tidal | 10 | >33 | Dipnet | Phyllospadix, bedrock, Egregia and algae |
| B6b | 18 | " " | " | HW | | brack-ish | Dipnet | Rock pools, very brackish |
| B6c | 18 | Trial I. Point, east of point | " | LW sub-tidal | | | Dipnet | Coarse to fine gravel |
| B7a | 19 | Willis Beach at Oak Bay, Victoria | 48°25'N 123°18'W | LW sub-tidal | | | Dipnet | Mud rock and algae |
| B7b | 19 | " " | " | MW-LW | | | Dipnet, shovel & screen | Sandy mud and polychaete burrows |
| B8 | 21 | Off Brady's Beach, Bamfield | 48°49.6'N 125°03.2'W | | | | 5-10 m Natural-ist's dredge | Stones, sand and algae |

TABLE V. (cont'd)

| STATION NO. | DATE | LOCALITY | LATITUDE LONGITUDE | TIDE | TEMP. °C | SAL'Y °/oo | DEPTH & SAMPLING METHOD | HABITAT |
|---|---|---|---|---|---|---|---|---|
| B9 | May 22 | Roadside ditch at Pachena Creek bridge, near Bamfield | 48°48.2'N 125°07'W | | c.10 | FW | Dipnet | Mosses, grass, bottom debris |
| B10 | 22 | Small steep stream 8 km, NE of Pachena Bay | 48°48'N 125°00'W | | c.8 | FW | No collection | Pacifastacus crayfish seen |
| B11a | 23 | Wickaninnish Bay, south end Long Beach at lodge | 49°03'N 125°42'W | LW | 11 | | Dipnet | Sand (Ampelisca tubes) at rock pool. LW-MW |
| B11b | 23 | " " " | " | ¼R | | | Dipnet, hand picking | Phyllospadix roots, steep rock walls with sponge hydroid and algae. LW-MW |
| B11c | 23 | " " " | " | HW | | | Shovel, hand picking | In sand and under drift debris |
| B12a | 24 | First Beach, below Brady's Beach | 48°49.2'N 125°09.8'W | ¼R | | | Dipnet | Bedrock pools at and above MW level, scour pools |
| B12b | 24 | " " | " | ¼R | | brackish | Dipnet | Brackish pools with Enteromorpha |
| B12c | 24 | " " | " | ¼R | | brackish | Dipnet | Spray pools (above sculpin level) |

| | | | | | | |
|---|---|---|---|---|---|---|
| B12d | 24 | First Beach, below Brady's Beach | 48°49.2'N 125°09.8'W | ½R | Dipnet | In mussel beds on rock under Fucus. MW-LW |
| B12e | 24 | " " | " | LW | Dipnet | Algae and kelp; subtidal |
| B13 | 25 | Trevor Channel off Brady's Beach | 48°49.6'N 125°10.5'W | | 6-14 m dredge | Hard sand, stone, algae |
| B14 | 25 | Trevor Channel off Execution Rock | 48°48'N 125°11.2'W | | 44-54 m dredge | Sandy mud algae, debris |
| B15 | 30 | Three-mile Bank, off Cape Beale | 48°46'N 125°25'W | | 110-120 m dredge | Mud and clay |
| B16 | 30 | Off Cape Beale, 1.60 km southwest | 48°47'N 125°14'W | | 60-54 m dredge | Fine gravel, stones, ophiuroids |
| B17 | 30 | Off Cape Beale, mouth Trevor Channel | 48°47.5'N 125°14'W | | 44-40 m | Sand and tube worms |
| B18 | 30 | Mouth of Trevor Channel | 48°48.0'N 125°13.5'W | | 36-40 m Naturalist's dredge | Sand and fine shell |
| B19a | June 1 | Brady's Beach, west end | 48°49.7'N 125°09.2'W | LW | Dipnet | Bedrock, Phyllospadix at infralittoral fringe, LW-HW levels |
| B19b | 1 | Brady's Beach, east end | 48°49.7'N 125°09.2'W | LW | Dipnet, shovel & screen | Fine shelly sand, ripple sand beyond wave wash. MW-LW levels |

TABLE V. (cont'd)

| STATION NO. | DATE | LOCALITY | LATITUDE LONGITUDE | TIDE | TEMP. °C | SAL'Y °/oo | DEPTH & SAMPLING METHOD | HABITAT |
|---|---|---|---|---|---|---|---|---|
| B20 | June 1 | Pools along footpath to Brady's Beach | 48°49.7'N 125°09.2'W | | 7 | FW | Dipnet | Leafy detritus |
| B21a | 1 | Off Brady's Beach | 48°49.6'N 125°09.2'W | | | | 16-30 m Naturalist's dredge | Sand and algae |
| B21b | 1 | " " | " | | | | 10-20 m Naturalist's dredge | Sand, algae, sticks and debris |
| J1 | May 12 | Head of Jervis Inlet, Queen's Beach | 50°12'N 123°54'W | | | | 360 m bottom sled | Ooze and detritus |
| J2 | 12 | Princess Royal Beach, off Mt. Frederick Williams, Jervis Inlet | 50°01'N 123°52'W | | | | 576 m sled mid-channel | Mud, woody debris |
| JS1 | 12 | Head of Jervis Inlet | 50°15'N 123°58'W | LW | | | Dipnet, hand picking | Gravel and mud. LW-MW |
| JS2 | 12 | Mouth of Lausmann Creek, Jervis Inlet | 50°12'N 123°56'W | ½R | | | Dipnet, hand picking | Gravel, stones, eelgrass MW |

| | | | | | | |
|---|---|---|---|---|---|---|
| JS3 | 12 | Jervis Inlet, north of Princess Louisa Inlet | 50°12'N 123°52'W | ½R | Dipnet, hand picking | Gravel and stones. MW |
| P1 | Nov. 2 | Pilot Cove, 300 m south | 49°20'N 123°15'W | | 44-50 m Naturalist's dredge (2 hauls) | Mud and woody detritus |
| P2 | 2 | West Bay, 400 m south | 49°19'N 123°12'W | | 20-24 m Naturalist's dredge | Mud and wood chips |
| P3 | 2 | West Bay, 1 km south | 49°18'N 123°12'W | | 60 m Naturalist's dredge | Woody detritus, mud |
| P4 | 2 | Mouth of Burrard Inlet | 49°18.9'N 123°16.0'W | | 110 m Naturalist's dredge SCOR (vert. plankton haul) | Fine mud |
| P5 | 2 | Mouth of Burrard Inlet off Pt. Grey | 49°18.0'N 123°16.0'W | | 80 m Naturalist's dredge | Fine silt clays; decapods, amphipods, cumaceans |
| P6 | 3 | Strait of Georgia off Burrard Inlet | 49°19.3'N 123°17.7'W | | 160 m Naturalist's dredge | Mud. Ophiuroidea |

TABLE V. (cont'd)

| STATION NO. | DATE | LOCALITY | LATITUDE LONGITUDE | TIDE | TEMP. °C | SAL'Y °/oo | DEPTH & SAMPLING METHOD | HABITAT |
|---|---|---|---|---|---|---|---|---|
| P7 | Nov. 3 | Queen Charlotte Channel SE of Bowen I. | 49°10.5'N 123°20.5'W | | | | 240 m Naturalist's dredge SCOR (plankton haul) | Mud, woody debris |
| P8 | 3 | Queen Charlotte Channel E of Passage I. | 49°20.5'N 123°17.5'W | | | | 130 m Naturalist's dredge | Mud, woody detritus; rich amphipod and decapod fauna |
| E1 | 4 | Belcarra Bay at mouth of Indian Arm | 49°18.9'N 122°55.8'W | | | | 20-24 m Naturalist's dredge | Mud and woody detritus. Epifaunal series below euphotic zone |
| E2 | 4 | Off Belcarra Wharf (Indian Arm) | 49°18.8'N 122°55.7'W | | | | 10-12 m Naturalist's dredge | Stones, algae, woody detritus. Amphipods, isopods, decapods |
| E3 | 4 | Off Dollarton boat sheds (Indian Arm) | 49°18.6'N 122°56.7'W | | | | 16-20 m Naturalist's dredge | Stones, coarse sand, woody debris |
| E4 | 4 | Roche Pt., (Indian Arm) | 49°18.0'N 122°57.4'W | | | | 8 m Naturalist's dredge | Algae holdfasts, coarse sand. Zostera, Ampithoe |

| | | | | | | |
|---|---|---|---|---|---|---|
| E5 | 4 | Indian Arm, south channel | 49°18.8'N<br>122°56.3'W | | 60 m Naturalist's dredge SCOR (plankton haul) | Mud and coarse sand |

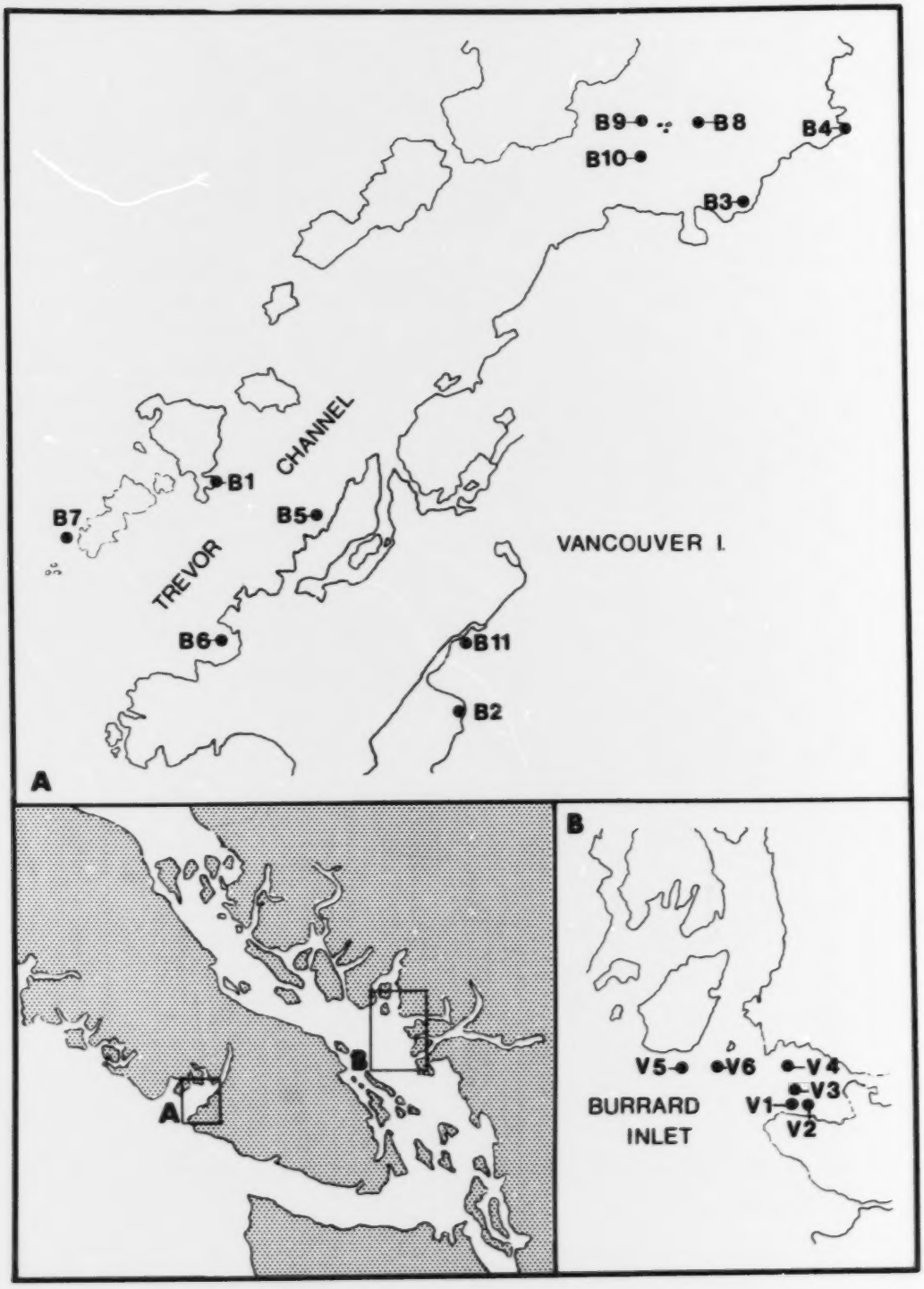


Fig. 12. Collecting localities in Vancouver Island and Burrard Inlet, 1978

TABLE VI. COLLECTING STATIONS, VANCOUVER ISLAND AND BURRARD INLET, 1978

(Collectors: E.L. Bousfield, BMS student class, Sig Tveit and crew R/V LEIK, Sandy Matheson and crew R/V ACTIVE LASS)

| STATION NO. | DATE | LOCALITY | LATITUDE LONGITUDE | TIDE | TEMP. °C | SAL'Y °/oo | DEPTH & SAMPLING METHOD | HABITAT |
|---|---|---|---|---|---|---|---|---|
| B1 | June 24 | Diana I., Trevor Channel, Vancouver I. | 48°50.2'N 125°10.1'W | LW | | | Dipnet | Rocky shore, macroalgae HW spray pools; eel grass; freshwater stream at HW |
| B2 | 25 | Pachena Bay, Vancouver I. | 48°47.5'N 125°07.5'W | LW | | | Dipnet, hand picking | Sandy beach; LW-HW Boulders and Phyllospadix |
| B3 | 26 | Christie Bay, Trevor Channel, Vancouver I. | 48°53'N 125°02'W | LW | | | Dipnet, hand picking | Rock, eelgrass, sand Pebbles; LW-HW |
| B4 | 26 | Sarita Estuary, Trevor Channel, Vancouver I. | 48°53.2'N 125°05'W | LW | | | Dipnet | Stones; Enteromorpha |
| B5 | 27 | Off Brady's Beach, Trevor Channel, Vancouver I. | 48°49.6'N 125°09.2'W | | | | 14-24 m bottom dredge<br>10 m | Sand, sticks<br>Macroalgae, sand |
| B6 | 27 | Off Long Beach, Trevor Channel, Vancouver I. | 48°48.2'N 125°10.9'W | | | | 20-24 m bottom dredge | Sand and fine gravel |
| B7 | 27 | Edward King I., Hammond Passage, Vancouver I. | 48°49.5'N 125°13.5'W | | | | 50-56 m bottom dredge | Shell |

| | | | | | | |
|---|---|---|---|---|---|---|
| B8 | 28 | Numukamis Bay in Trevor Channel, Vancouver I. | 48°54.2'N 125°02.5'W | | 160-240 m dredge | Mud, clay |
| B9 | 28 | West side San José Islets, Trevor Channel, Vancouver I. | 48°54.0'N 125°03.5'W | | 32 m dredge | Sandy mud, rock |
| B10 | 28 | Trevor Channel, south of San José Islets, Vancouver I. | 48°53.7'N 125°03.5'W | | 166 m plank-ton tow | Euphausiacea; Cyphocaris |
| B11 | 26 | Ditch beside Pachena Bay Road, Vancouver I. | 48°48.2'N 125°07'W | FW | Dipnet; shallow | Weeds and filamentous algae |
| V1 | July 4 | Burrard Inlet, Spanish Banks, just west of shore marker | 49°16.5'N 123°13.0'W | | 3-8 m Natural-ist's dredge | Mud, sand, wood chips |
| V2 | 4 | Burrard Inlet, Spanish Banks, just east of shore marker | 49°16.5'N 123°14.0'W | | 3-8 m Natural-ist's dredge | Hard sand, woody detritus; mysids |
| V3 | 4 | Burrard Inlet, Spanish Banks, 300 m north of shore marker | 49°18.0'N 123°13.5'W | | 25 m Natural-ist's dredge | Sand, shell |
| V4 | 4 | Burrard Inlet, mid-point between Spanish Banks and West Vancouver | 49°19.0'N 123°13.5'W | | 50 m Natural-ist's dredge | Sandy mud, shell, worm tubes |

TABLE VI. (cont'd)

| STATION NO. | DATE | LOCALITY | LATITUDE LONGITUDE | TIDE | TEMP. °C | SAL'Y °/oo | DEPTH & SAMPLING METHOD | HABITAT |
|---|---|---|---|---|---|---|---|---|
| V5 | July 5 | Burrard Inlet, entrance 1 km off Cowan Pt., Bowen I. | 49°20'N 123°20'W | | | | 280 m Naturalist's dredge (2 hauls) | Fine mud, woody detritus |
| V6 | 5 | Burrard Inlet, 1.6 km south of Passage I. | 49°19.0'N 123°19.0'W | | | | 160 m Naturalist's dredge (2 hauls) | Fine mud, woody detritus |

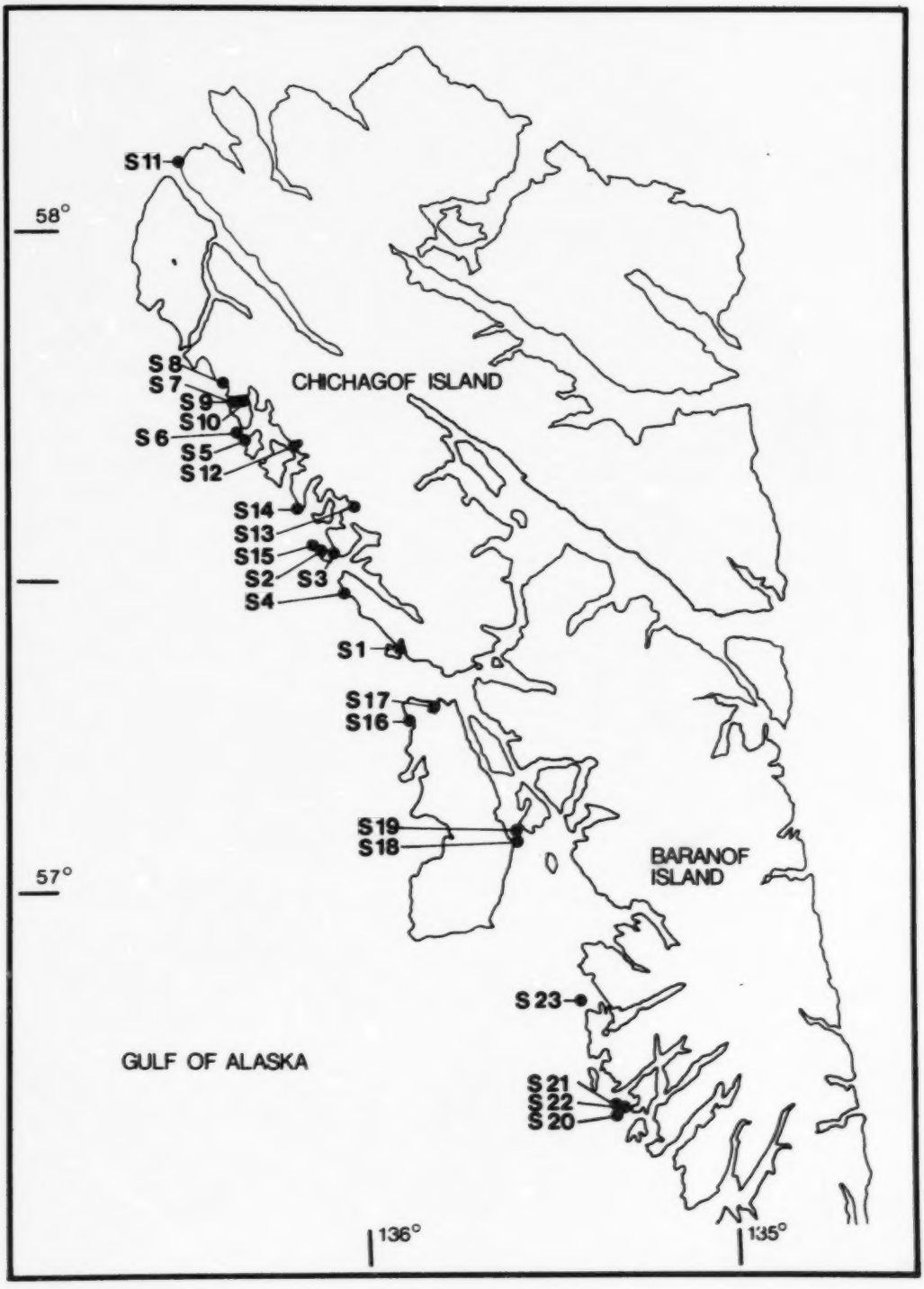


Fig. 13. Collecting localities in Sitka Region, southeastern Alaska, 1980

TABLE VII. COLLECTING STATIONS, SITKA REGION, SOUTHEASTERN ALASKA, 1980

(Collectors: E.L. Bousfield, J.J. Dickinson, P. Frank, K. Conlan, R. Billings and crew R/V SULTANA)

| STATION NO. | DATE | LOCALITY | LATITUDE LONGITUDE | TIDE | TEMP. °C | SAL'Y °/oo | DEPTH & SAMPLING METHOD | HABITAT |
|---|---|---|---|---|---|---|---|---|
| | July | | | | | | | |
| S1 | | | | | | | | |
| F1 | 26 | Leo Anchorage, Klokachef I. | 57°25'N 135°51'W | HW | | | 6-10m dredge | Stones, kelp |
| F2 | | | | HW | | | Ekman grab | Coarse shelly sand, silt |
| L1 | | Inside Klokachef I. | | | | | 13 m dive | Rock shelf, sponges |
| S2 | | | | | | | | |
| B1 | 26 | Small island opposite Baird I., Slocum Arm Chichagof I. | 57°33'N 136°01'W | HW | | | Dipnet, hand picking | Stones, creek mouth |
| F1 | | | | pelagic | 14.5 | 33.5 | Dredge | Pelagic Noctiluca |
| S3 | | | | | | | | |
| B1 | 26 | Chichagof I. at Trap Pt., Slocum Arm | 57°33½'N 136°01'W | LW | | | Intertidal, dipnet hand picking | Slatey stone shore outflow MW-HW |
| B2 | | | | | | | Intertidal hand picking | Beneath kelp zone. LW-MW |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| S4 | 27 | Point Slocum at Potato Patch Pt., Chichagof I. | 57°29'N 135°58'W | LW | c.12 | | Inter-tidal, dipnet, hand picking | Shelly sand; organic debris, LW |
| B1 | | | | | | | | |
| B2 | | | | | | | (as above) | Freshwater stream outflow; sand. LW-1/3R |
| B3 | | | | | | | (as above) | Sand and eel grass roots. LW and subtidal |
| B4 | | outer beach | | | | | (as above) | Bedrock and boulders, kelp and Phyllospadix. LW |
| B5 | | | | | | | (as above) | Under stones and pebbles. LW |
| B6 | | | | | | | (as above) | Under stones. MW |
| S5 | 28 | NW end Hogan I., small bay (1961 Stn. 164) | 57°43'N 136°15½'W | LW | 14.0 | 31.0 | Inter-tidal, | Vertical slate bedrock |
| B1 | | west cove | | | | | dipnet, hand picking | Slatey gravel, organic de debris |
| B2 | | west cove | | | | | (as above) | Bedrock and kelp. LW-sub-tidal |
| B3 | | east cove | | | | | (as above) | Fine black ripple sand; subtidal |
| B4 | | east cove | | | | | (as above) | Under stones in stream out-flow. LW-MHW |
| B5 | | east cove | | | | | (as above) | FW stream above tide. HW |
| B6 | | east cove | | | | | (as above) | Drift debris under gravel, logs. HW level |
| B7 | | west cove | | | | | (as above) | Under kelp and fucoids. LW-MW |
| B8 | | west cove | | | | | (as above) | On rocks under open stones. MW-LW |
| B9 | | east cove | | | | | (as above) | Bedrock and sand. LW |
| B10 | | east cove | | | | | (as above) | Under open stones. MW |
| B11 | | east cove | | | | | (as above) | Under open stones. MHW |

TABLE VII. (cont'd)

| STATION NO. | DATE | LOCALITY | LATITUDE LONGITUDE | TIDE | TEMP. °C | SAL'Y °/oo | DEPTH & SAMPLING METHOD | HABITAT |
|---|---|---|---|---|---|---|---|---|
| S6 | July 28 | NW end Hogan I., mouth of Imperial Passage | 57°43½'N 136°16'W | LW-¼R | | | LW-16 m dive | Sand, tube worms, hydroid clumps |
| L1 | | | | | | | " | Stones, hydroid clumps; shallow subtidal |
| L2 | | | | | | | | |
| S7 | 29 | Dry Pass, north end of Hill I., Chichagof I. | 57°47'N 136°18'W | LW | c.15 | 30+ | | Vertically bedded metamorphics |
| B1 | | west end | | | | | Dipnet, hand picking | Under boulders in kelp and algae. LW-MW |
| B2 | | west end | | | | | (as above) | HW spray pools |
| B2 | | west end | | | | | (as above) | MHW among Fucus on bedrock |
| B3 | | west end | | | | | (as above) | LW-MW under stones |
| B4 | | west end | | | | | (as above) | MHW; in pools in fucoids |
| B5 | | west end | | | | | (as above) | MW-HW; under bare stones |
| B6 | | west end | | | | | (as above) | HW; under stones and pebbles |
| B7 | | west end | | | | | | |
| S8 | | | | | | | | |
| B1 | 29 | Sea level slough, east side Fleming I., Chichagof I. | 57°48'N 136°18½'W | LW | c.15 | 30 | Dipnet, hand picking | Coarse sand, eel grass, algae on boulders. LW and subtidal |
| B2 | | | | | 15+ | <30 | (as above) | Sand and eel grass flats. LW-¼R |
| B3 | | | | | | | (as above) | Under stones in stream. MW-HW |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| S9 B1 | 29 | Dry Pass, east end, Chichagof I. | 57°45½'N 136°17½'W | LW | | | Dipnet, hand picking | Eel grass and shelly sand. LW-MW |
| S10 F1 | 29 | Dry Pass, anchorage | 57°46'N 136°17'W | LW | | | 8 m Ekman | Black mud |
| S11 B1 | 30 | Column Pt., north end of Lisianski Strait, Chichagof I., | 58°06.4'N 136°27'W | LW | 10.5 | 27.6 | Dipnet, hand picking | Bedrock, boulders, kelp. LW and subtidal |
| B2 | | | | | | | (as above) | Pools, under stones. MW |
| B3 | | | | | | | (as above) | Fine black organic sand. LW and subtidal |
| B4 | | | | | | | (as above) | Under open boulders. MW-HW |
| B5 | | | | | | | (as above) | Under boulders. LW-MW |
| F1 | | | | | | | 3-6 m dredge | Hard sand |
| S12 B1 | 31 | Black Bay, Chichagof I., mouth of Black R. | 57°42½'N 136°08'W | LW | 13 | c.25 | Dipnet, hand picking | In rotting fucoids on sandy silt and gravel. MW |
| B2 | | | | | | FW | (as above) | FW stream outflow and marsh pools. HW |
| S13 B1 | 31 | Sister Lake, Chichagof I., head of east arm | 57°37½'N 135°59'W | LW ¼R | 12.5 | 15 | Dipnet, hand picking | Gravel and eel grass. LW and subtidal |
| B2 | | | | | | | (as above) | Filamentous algae - under algal debris. HW |
| B3 | | | | | | | (as above) | Under stones. MW |
| F1 | | | | | | | 0-3 m dredge | Gravel and algae |

TABLE VII. (cont'd)

| STA-TION NO. | DATE | LOCALITY | LATITUDE LONGITUDE | TIDE | TEMP. °C | SAL'Y °/oo | DEPTH & SAMPLING METHOD | HABITAT |
|---|---|---|---|---|---|---|---|---|
| | July | | | | | | | |
| S14 | | | | | | | | |
| L1 | 31 | Ogden Passage at entrance to Elbow Passage, Chichagof I. | 57°37½'N 136°07½'W | LW-½R | | | 3-14 m dive | Sand and stone, hydroid clumps |
| S15 | | | | | | | | |
| B1 | 31 | Small I., W of Baird I., Khaz Bay, Chichagof I. | 57°32½'N 136°03½'W | HW | | | Hand picking | Drift debris. HW, Lepas sp. |
| | Aug. | | | | | | | |
| S16 | 1 | Sea Lion Cove, NW outer coast, Kruzof I. | 57°18½'N 135°50'W | LW-½R | | | | Surf sand beach |
| B1 | | NW end of beach | | | 11-12 | 32+ | Dipnet, hand picking | On bedrock under algae at surf sand interface. LW and subtidal |
| B2 | | | | | | | (as above) | Spray pools, above barnacles. HW+ |
| B3 | | | | | | | (as above) | Under rocks. LW+ |
| B4 | | | | | | | (as above) | Pools in sand near boulders. LW-MW |
| B5 | | | | | | | (as above) | Under drift debris. HW |
| S17 | | | | | | | | |
| F1 | 1 | Kalinin Bay, inner cove, Kruzof I. | 57°19'N 135°47'W | | 13 | 27.8 | 3-6 m dredge | Shell, mud, gravel |
| B1 | | outer delta | | | | | Dipnet, hand picking | Muddy gravel, Zostera. LW-MW |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| S18 | 2 | Off Kamenoi Pt., beach Kruzof I., north end Sitka Sound | 57°08'N 135°34'W | ¾F | | | | Sand beach (Siliqua) |
| F1 | | | | | | | 1½-3 m dredge | Fine silty sand |
| F2 | | | | | | | 6 m dredge | Fine sand and shell |
| F3 | | | | | | | 10 m dredge | Stones and algae on sand |
| B1 | | south end | | LW | | | Dipnet, hand picking | Conglomerate bedrock and Phyllospadix. LW |
| B2 | | | | | | | (as above) | Under rocks. MW |
| S19 | | | | | | | | |
| B1 | 2 | Kamenoi Pt., Hayward Strait, Kruzof I. | 57°08½'N 135°33½'W | | 14.6 | | Dipnet, hand picking | Stones, algae, Phyllospadix on black sand. LW and subtidal |
| B2 | | | | | | | (as above) | Under boulders. LW-MW levels |
| B3 | | | | | | | (as above) | Bedrock spray pools. HW |
| S20 | 3 | Rakof I., northern series at Dry Pass, Baranof I. | 56°44½'N 135°18½'W | | | | | |
| B1 | | inner beach | | LW | 13.4 | 31.6 | Dipnet, hand picking | Under stones above Fucus. MW-MHW |
| B2 | | | | | | | (as above) | Under stones in shelly bottom. LW and subtidal |
| B3 | | outer beach | | | | | (as above) | In stream outflow under stones. MW-HW |
| B4 | | | | LW-¼R | | | (as above) | Under stones in eel grass, stream mouth. LW and subtidal |
| B5 | | | | | | | (as above) | Gravel and shell, kelp. LW |
| B6 | | across bay from B5 | | ¼R | | | (as above) | Gravel, shell, woody debris. LW |

TABLE VII. (cont'd)

| STATION NO. | DATE | LOCALITY | LATITUDE LONGITUDE | TIDE | TEMP. °C | SAL'Y °/oo | DEPTH & SAMPLING METHOD | HABITAT |
|---|---|---|---|---|---|---|---|---|
| | Aug. | | | | | | | |
| S20 (cont'd) B7 | 3 | Rakof I., northern series at Dry Pass, Baranof I. inner passage | 56°44½'N 135°18½'W | ½R | | | Dipnet hand picking | On eel grass. LW |
| S21 L1 | 3 | Rakof I., mouth of first narrows anchorage, Baranof I. | 56°45½'N 135°18½'W | LW | | | 4½-13 m dive | Steep bedrock and boulders. Corraline algae, sponge, kelp. |
| S22 | 3 | Rakof I., first narrows anchorage | 56°45'N 135°19'W | | | | | |
| F1 | | south end near dry passage | | | | | 1½ m dredge | Mud, shells |
| F2 | | | | | | | 6 m dredge | Mud, shells |
| F3 | | | | | | | 10 m dredge | Mud, shells |
| S23 F1 | 4 | Taigud I., south island beach opposite Koka I., Baranof I. | 56°54½'N 135°24'W | ½R | | | 4½-10 m dredge | Sand and kelp |

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